

A1  
11/1998  
C.2

# Pesticide Report For 1998

---

North Carolina Department Of Agriculture  
and Consumer Services  
James A. Graham, Commissioner



N.C. DOCUMENTS  
CLEARINGHOUSE

JUN 21 1999

STATE LIBRARY OF NORTH CAROLINA  
RALEIGH







CUT ALONG DOTTED LINES BEFORE MAILING

## ATTENTION READERS!

In line with a law passed by the 1975 General Assembly, the mailing list of the North Carolina Pesticide Report will be updated this year.

If you wish to continue receiving the Report, you must return this card by December 31, 1999. Others will be dropped.

We hope you find the Report of value and that you will return this card immediately while it is on your mind.

The procedure is very simple:

- 1 - REMOVE THIS CARD FROM YOUR REPORT.
- 2- CORRECT NAME AND ADDRESS AS NEEDED ON THE LABEL.
- 3 -PLACE STAMP ON THE REVERSE SIDE AND MAIL.
- 4 -DO NOT REMOVE LABEL FROM CARD.

Please, if you are interested in receiving the Report, drop this card in the mail TODAY. We want to give you the best service we can.

JOHN L. SMITH  
Pesticide Administrator

REMOVE STUB BEFORE MAILING

PLACE  
STAMP  
HERE

John L. Smith, Pesticide Adm.  
Pesticide Section  
North Carolina Dept. of Agriculture  
and Consumer Services  
P.O. Box 27647  
Raleigh, NC 27611

REMOVE STUB BEFORE MAILING

CUT ALONG DOTTED LINES BEFORE MAILING



# North Carolina PESTICIDE REPORT

for

January 1 - December 31, 1998

THE BULLETIN  
of the  
North Carolina Department of Agriculture  
and Consumer Services  
Raleigh, N.C.

James A. Graham, *Commissioner*  
Maurice A. Weaver, *Deputy Commissioner*  
Robert L. Gordon, *Director*  
*Food and Drug Protection Division*  
John L. Smith, *Pesticide Administrator*  
*Food and Drug Protection Division*

Number 299  
2,500

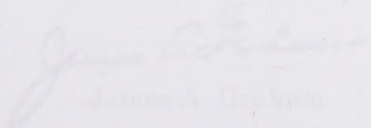
1998

2,500 copies of this publication were printed at a cost of \$2,415.00 or \$0.9660 per copy. A portion of the cost for publication and distribution was paid for utilizing federal grant monies. The N.C. Department of Agriculture and Consumer Services, Food and Drug Protection Division, received a grant of \$402,671.00 for FY-98 which represents 9.2% of the operating for Pesticide Control and Analysis. 99-26265

Digitized by the Internet Archive  
in 2016

# Table of Contents

	Page
Foreword .....	5
How to Use this Report .....	6
Introduction .....	8
Brief of the North Carolina Pesticide Law of 1971 .....	10
Regulations Adopted by the North Carolina Pesticide Board .....	13
Pesticide Board and Pesticide Advisory Committee .....	81
Official Analyses of Pesticides 1998 Definitions of Decisions .....	82
Table I - Pesticides Examined, 1998 .....	83
Table II - Samples at Variance from Guarantee, 1998 .....	92
Other Violations, 1998 .....	102
Summary of 1998 Regulatory Activities Performed Under the North Carolina Pesticide Law of 1971 .....	104

  
James A. Graham

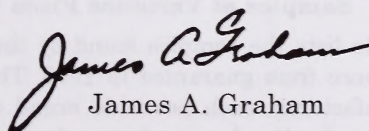




James A. Graham, *Commissioner*

The 1998 Edition of the North Carolina Pesticide Report represents a revision of previous issues. By elaborating on the purpose of this report, by adding new material, and by better defining the substances listed, we attempted to reflect in a more meaningful manner, the information collected during the 1998 calendar year. We hope that more readers will be able to use it effectively.

This will also acknowledge and express our appreciation to the following people who made significant contributions to the contents and preparation of this Pesticide Report: **Pesticide Section** - Margaret D. Broome, Eleanor F. Lipscomb, Joyce M. Sanders, Jamillah C. Spencer, Laura L. Stover, *Processing Assistant III's*; Frances L. Barry, Sandi H. Cummings, Darlene H. Garner, Cassandra E. Herndon, Ann H. Vaughn, *Office Assistant IV's*; Amy P. Bissette, Betty H. Griffin, *Administrative Secretary III's*; Lorrie C. Gay, Daisy R. Watkins, and Michael V. Williams, *Information Processing Technicians*; Flo S. Lamphier and Bettie L. Smith, *Administrative Officer I's*; John L. Smith, Jr., *Pesticide Administrator*; James W. Burnette, Jr., *Deputy Pesticide Administrator*; Julie A. Haigler, *Registration, Licensing, and Information Unit Supervisor*; John E. Hunter, III, *Emergency Response Unit Supervisor*; Mitchell A. Peele, *Special Programs Unit Supervisor*; Sharron W. Preddy, *Compliance Monitoring and Field Operations Unit Supervisor*; Dr. Henry F. Wade, *Environmental Programs Manager*; J. Derrick Bell, John B. Dalley, *Pesticide Specialist II's*; J. Scott Bissette, Judith H. Card, L. Lee Davis, Kay G. Harris, Dr. Colleen M. Hudak, Carolyn M. Thompson, Valerie C. Vann, and Robert M. Welker, *Pesticide Specialists*; Larry C. Baxley, J. Patrick Jones, Michael A. Mitchell, Dwight E. Seal, and Haywood L. West, *District Supervisors*; James C. Bristow, Jr., Charles L. Clark, Benny C. Griffin, Hoyt M. Haddock, Gwen T. Minton, W. Howard Minton, James T. Perry, Tyres G. Tatum, *Pesticide Inspector II's*; Thomas C. Bowman, Jr., W. Kenneth Crabtree, W. Barry Dunn, Forrest S. Egelston, Patrick N. Farquhar, Steven F. Gatton, J. Michael Jackson, Terry L. Leatherwood, Colleen R. Moore, R. Steve Taylor, D. Wayne Tyer, Paul H. Ward, III, Kenneth E. Warren and T. Kent Yarborough, *Pesticide Inspectors*; **Food and Drug Protection Division** - Robert L. Gordon, *Director*; E. Bruce Williams, *Deputy Director, Regulatory and Service Programs*; Dr. Joel M. Padmore, *Assistant Director and State Chemist*; George Hernandez, *Lan Administrator*; Dr. Jennifer Quinlan, *Chief Microbiologist*; Amoret D. Bittle and Martha M. Bray, *Microbiologists*; Ralph L. Denning, *Supervisor, Pesticide Laboratory*; J. Leon Carroll, John W. Duncan, R. Vern Park, Stephanie A. Raysich, Ronnie E. Rollins, Frankie G. Worsham, *Chemists*; Coy T. Bowling, *Laboratory Helper*.



James A. Graham



## How to Use This Report

Considerable time and effort has gone into editing and organizing this 1998 edition of the Pesticide Report. Every section has been updated, new information added as necessary, and details expanded to make this Report a more complete and up-to-date reference as to the sale and use of pesticides in North Carolina.

Individually requested and tailored lists of registrants, dealers, applicators or consultants are available by contacting the Pesticide Section at (919) 733-3556. A nominal printing charge may apply.

In this Pesticide Report you will find:

### Introduction

The Introduction accurately reflects the development of laws and regulations governing the sale and use of pesticides in North Carolina.

It also refers to certain divisions in the North Carolina Department of Agriculture & Consumer Services that perform key roles in regulating and controlling the sale and use of pesticides in this State.

### Brief of the North Carolina Pesticide Law of 1971 (As Amended through 1997)

This section presents a brief abstract of the North Carolina Pesticide Law of 1971. It also shows how and where to obtain a complete copy of the Law.

### Regulations Adopted by the North Carolina Pesticide Board

This section presents verbatim all regulations adopted to date by the North Carolina Pesticide Board under the Administrative Procedures Act.

### Pesticide Board and Pesticide Advisory Committee

This section presents a brief description of the duties and composition of the North Carolina Pesticide Board and North Carolina Pesticide Advisory Committee.

### Pesticides Examined, 1998

This section presents in table form an alphabetical listing of the manufacturer of the pesticides that were sampled and analyzed in the Department's laboratories in 1998. Results of the analyses are tabulated and total numbers of each determination made are at the end of the table.

### Samples at Variance From Guarantee, 1998

This table lists the samples found by the Department's laboratories to be at variance from guarantee in 1998. The table also lists the name of each manufacturer, each pesticide brand name, and presents data and description indicating how each sample examined varied from guarantee.



### **Other Violations, 1998**

This section gives the names of firms that manufactured or distributed products in North Carolina and had one or more violations under the North Carolina Pesticide Law of 1971. These violations constituted either unregistered or misbranded products examined at pesticide outlets but not sampled for analysis.

### **Summary of 1998 Regulatory Activities Performed Under the North Carolina Pesticide Law**

This section presents a summary of the total numbers of manufacturers who registered pesticides in North Carolina; pesticide formulations registered; pesticides examined; stop-sale, stop-use, or removal orders issued; licenses issued; and equipment inspections.

### **Pesticide Container Recycling and Pesticide Disposal Program**

This section will summarize the activities of the Department in working with farmers, commercial applicators, agribusiness organizations, Extension Service personnel and local government related to disposing of obsolete pesticide products and recycling of plastic pesticide containers. Included in this section will be a map of North Carolina that illustrates counties where container recycling and disposal activities occurred.

## Introduction

The term "Pesticide" covers a large number of materials and mixtures intended for destroying, controlling, or repelling pests such as insects, weeds, and other noxious plants, predatory animals and birds, soil-infesting pests such as nematodes, algae, snails, and bacteria. Other examples are disinfectants, antiseptics, and fungicides for use other than on living man or other animals, defoliants, various repellents, fly paper, and other adhesive products whose action goes beyond simple mechanics, moth proofers, wood preservatives other than common paints, mildew controls, and seed fumigants.

An adequate and readily available supply of many of these products is essential in the economical production of feed and fiber crops. The preservation of many products in storage and the control of domestic and industrial pests which affect both the health and welfare of human beings and animals are likewise dependent on such materials.

While the development and distribution of various pesticides to serve the needs are important, provisions must be present to protect the public. During the years 1947 through 1971, it was the purpose of the economic poisons law (North Carolina Insecticide, Fungicide, and Rodenticide Act of 1947, G.S. 4A, Chapter 106) to protect the public from adulterated, misbranded, worthless, and dangerous products, and legitimate manufacturers from unscrupulous competition.

During the years 1953 through 1971, the aerial application of pesticides was regulated by the North Carolina Aerial Crop Dusting Law, G.S. 4B, Chapter 106. The Law and the regulations promulgated thereunder, in summary, required the registration and licensing of contractors and aviators who engaged in the custom application of pesticides by aircraft in North Carolina. The validity of a license was further restricted to the period of time that coverage by liability bond or insurance for damage by aircraft was in force.

During 1969, the North Carolina General Assembly through House Resolution 1392 directed the Legislative Research Commission to study the laws regulating pesticides in N.C. and report its findings and recommendations to the 1971 General Assembly. As a result of the findings and recommendations of the Commission, the North Carolina Pesticide Law of 1971 was adopted.



The N.C. Pesticide Law of 1971 established the North Carolina Pesticide Board as the governing body for the programs of pesticide management and control set forth in the Law. Provisions for regulating the use, application (aerial and ground), sale, storage, disposal and registration of pesticides are set forth in the Law.

The Law provides for the adoption of a list of restricted use pesticides and requires the licensing of all pesticide dealers who sell restricted use pesticides directly to users. Pesticide applicators and consultants are also subject to licensing requirements. Private pesticide applicators may be required to be certified or recertified in order to purchase, use, and supervise use of restricted use pesticides in agricultural commodity production.

The Commissioner of Agriculture is responsible for administering and enforcing the Law and all rules and regulations adopted by the Board.

Each brand or grade of pesticide must be registered with the North Carolina Department of Agriculture & Consumer Services before it can be legally offered for sale in the State. A \$30.00 registration fee for each brand or grade must accompany each Application for Registration. In addition to the registration fee, an annual assessment must be paid for each brand or grade to be registered in North Carolina. The assessment shall be \$50.00 if the applicant's gross sales of the pesticide in this state for the preceding 12 months for the period ending September 30th were more than \$5,000.00 and \$25.00 if gross sales were less than \$5,000.00. This assessment must accompany the \$30.00 registration fee in order for the registration to be complete.

A state-wide inspection service will be maintained to investigate incidents involving pesticide misuse and to implement programs to enhance compliance to the Law and regulations. In addition to product registration and applicator licensing programs, the Pesticide Section of the Food and Drug Protection Division will implement programs as authorized by regulation pertaining to the quality of formulated pesticides, the storage, disposal, and use of pesticides. The Department will maintain analytical laboratories to conduct analysis of official samples obtained for regulatory purposes.



## Brief of the North Carolina Pesticide Law of 1971

North Carolina Pesticide Board

**Governing Body**

Commissioner of Agriculture, Raleigh, N.C.

**Administrative  
and Enforcement**

North Carolina Pesticide Advisory Committee

**Assists the Board and  
Commissioner in an  
advisory capacity**

Any pesticide may be designated as a "restricted use pesticide" upon the grounds that in the judgment of the Board it is so hazardous or injurious to persons, pollinating insects, animals, crops, wildlife, lands, or the environment that additional restrictions on its sale, purpose, use, or possession are required. Restricted Use Pesticides include any pesticide required by the Environmental Protection Agency to bear the designation on its labeling "Restricted Use Pesticide." (Restricted Use Pesticides have been established by regulation.)

**Restricted Use  
Pesticides**

The Board may require certification and recertification of private pesticide applicators and charge a fee of up to \$10.00. The current fee is established by regulation at \$6 for a three-year certification.

**Private Applicator  
Certification  
Requirement**

All pesticide dealers who sell restricted use pesticides must be licensed. Application for a pesticide dealer's license must be accompanied by a nonrefundable fee of \$30. All licenses shall expire on December 31 of the year for which they are issued. The license may be renewed annually upon application to the Department of Agriculture and Consumer Services, accompanied by a nonrefundable fee of \$30 for each license, on or before the first day of January of the calendar year for which the license is issued. Each applicant must demonstrate upon written, or written and oral, examination his knowledge of pesticides, their usefulness and their hazards; his competence as a pesticide dealer; and his knowledge of the laws and regulations governing the use and sale of pesticides.

**Pesticide Dealer  
Licensing Requirement**

No person shall engage in the business of pesticide applicator within North Carolina unless he is licensed annually by the Board. Each license application shall be accompanied by a nonrefundable fee of \$30 for each applicator's license and an additional \$10 for each aircraft to be licensed. A pesticide applicator is defined as any person who owns or operates a pesticide application business or who provides, for compensation, a service that includes the application of pesticides upon the lands or properties of another; any public operator; any golf course operator; any seed treater; any person engaged in demonstration or research pest control; and any other person who applies pesticides for compensation and is not exempt from this definition. It does not include:

**Pesticide Applicator  
Licensing Requirement**

- a. Any person who uses or supervises the use of a pesticide (i) only for the purpose of producing an agricul

tural commodity on property owned or rented by him or his employer, or (ii) only (if applied without compensation other than trading of personal services between producers of agricultural commodities) on the property of another person, or (iii) only for the purposes set forth in (i) and (ii) above.

- b. Any person who applies pesticides for structural pest control, as defined in the North Carolina Structural Pest Control Law (G.S. Chapter 106, Article 4C.)

Each applicant must demonstrate upon written, or written and oral, examination his competence as a pesticide applicator or public operator. In addition, to be licensed as a pilot, a person must have 125 hours and one year's flying experience as a pilot in the field of aerial pesticide application.

No person shall perform services as a pest control consultant without first procuring from the Board a license. The application for a license shall be accompanied by an annual nonrefundable fee of \$30. A pest control consultant is defined as any person who, for a fee, offers or supplies technical advice, supervision, or aid, or recommends the use of specific pesticides for the purpose of controlling insects, plant diseases, weeds, and other pests, but does not include any person regulated by the North Carolina Structural Pest Control Act. Each applicant must demonstrate upon written, or written and oral, examination his competence as a pesticide consultant. An applicant for a pest control license must possess a Ph.D., master's, or bachelor's degree in an agricultural or biological science from an accredited college or university with a minimum of 30 semester hours or 45 quarter hours of credit in subject areas pertinent to the category in which the applicant seeks to obtain a license. Emphasis of study must include insect, plant, bacterial, and fungal pests, as applicable to the category, and integrated pest management.

No person shall handle, transport, store, display, or distribute pesticides in such a manner as to endanger man or his environment.

Every pesticide prior to being distributed, sold, or offered for sale within this State or delivered for transportation or transported in intrastate commerce or between points within this State through any point outside this State shall be registered and such registration shall be renewed annually. Each manufacturer, distributor, or registrant of a pesticide shall supervise the activities of any employee or agent to prevent the making of deceptive or misleading statements about a pesticide. It shall be unlawful for any person to distribute, sell, or offer for sale any restricted use pesticide to any dealer who does not hold a valid N.C. Pesticide Dealer License.

A registration fee of \$30 for each brand or grade of pesticide is required. An additional \$200 delinquent registration penalty shall be assessed against the registrant

**Pest Control  
Consultant  
Licensing  
Requirement**

**Handling, Storage,  
and Disposal of  
Pesticides**

**Registration**

**Registration Fee  
and Delinquent  
Penalty**



for each brand or grade of pesticide marketed in North Carolina prior to registration.

An annual Pesticide Environmental Trust Fund assessment fee is required for each brand or grade of pesticide registered. This fee is either \$25.00 or \$50.00, based on gross sales of the pesticide within the State for the previous year. The assessments provide funding for agromedicine efforts at East Carolina University and North Carolina State University, for the Toxicology Department at NCSU, and for pesticide environmental programs administered by the N.C. Department of Agriculture & Consumer Services.

Pesticide  
Environmental  
Trust Fund  
Assessment

Registration is subject to refusal or cancellation for cause and upon hearing.

Refusal or  
Cancellation of  
Registration  
Deficiencies  
"Stop Sale, Stop  
Use Orders"

Any brand or grade found to be deficient or excessive in active ingredients, misbranded, adulterated, or not registered is subject to "Stop Sale, Stop Use Orders."

The Pesticide Board may assess a civil penalty of not more than \$2,000 against any person who violates or directly causes a violation of any provision of this Article or any rule adopted pursuant to this Article. In determining the amount of any penalty, the Board may consider the degree and extent of harm caused by the violation and the cost of rectifying the damage caused by the violation.

Civil  
Penalties

Notwithstanding any other provision of this Law, the maximum penalty which may be assessed under this section against a "private pesticide applicator" is \$500 and such penalties may be assessed only for willful violations.

Other  
Penalties

Any person who shall be adjudged to have violated any provision of the Law, or any regulation of the Board adopted pursuant to this Law, shall be guilty of a Class 2 misdemeanor and for each violation shall be liable for a penalty of not less than \$100 or more than \$1,000 or shall be imprisoned for not more than 60 days, or both. In addition, if any person continues to violate or further violates any provision of this Article after written notice from the Board, the court may determine that each day during which the violation continued or is repeated constitutes a separate violation subject to the foregoing penalties.

**NOTE: Copies of the North Carolina Pesticide Law of 1971, as amended through 1998, and additional copies of the regulations adopted by the North Carolina Pesticide Board may be obtained upon request to the Pesticide Section, North Carolina Department of Agriculture & Consumer Services P.O. Box 27647, Raleigh, North Carolina 27611**



---

**AGRICULTURE - FOOD AND DRUG PROTECTION DIVISION**

---

**SUBCHAPTER 9L - PESTICIDE SECTION****SECTION .0100 - ORGANIZATIONAL RULES****.0101 DUTIES OF THE PESTICIDE SECTION**

The primary duties of the pesticide section of the food and drug protection division are the administration and enforcement of the North Carolina Pesticide Law of 1971, G.S. Chapter 143.

*History Note:* Statutory Authority G.S. 143-461(5);  
Eff. February 1, 1976;  
Amended Eff. August 1, 1982; January 27, 1978.

**.0102 DUTIES (CONTINUED)**

The North Carolina Pesticide Board has delegated the following statutory powers, duties, and authorities to the Commissioner of Agriculture:

- (1) the first sentence of G.S. 143-442(a);
- (2) G.S. 143-442(c);
- (3) the first two sentences of G.S. 143-442(d);
- (4) G.S. 143-443(a)(1);
- (5) G.S. 143-443(a)(2), (c);
- (6) G.S. 143-445(a)(3), (b);
- (7) the first sentence of G.S. 143-446(a);
- (8) the first sentence of G.S. 143-446(c);
- (9) G.S. 143-447(b);
- (10) G.S. 143-448(c);
- (11) G.S. 143-448(e);
- (12) G.S. 143-448(f);
- (13) G.S. 143-449(a);
- (14) the first sentence of G.S. 143-449(b);
- (15) the first phrase of G.S. 143-450(a);
- (16) G.S. 143-452(a);
- (17) G.S. 143-452(b), excluding the first sentence;
- (18) G.S. 143-452(e);
- (19) the first sentence and last two sentences of G.S. 143-452(f);
- (20) G.S. 143-453(a);
- (21) the first sentence of G.S. 143-453(b);
- (22) the first phrase of G.S. 143-454(a);
- (23) the first sentence of G.S. 143-455(a);
- (24) G.S. 143-455(b);
- (25) the first sentence of G.S. 143-455(c);
- (26) G.S. 143-461(7);
- (27) G.S. 143-461(8);
- (28) G.S. 143-465(b);
- (29) G.S. 143-466(b);
- (30) the first sentence of G.S. 143-466(c);
- (31) the first sentence of G.S. 143-466(d);
- (32) G.S. 143-466(e).

*History Note:* Statutory Authority G.S. 143-461(5);  
Eff. February 1, 1976;  
Amended Eff. November 1, 1988; August 1, 1987.

**.0103 ASSIGNMENT OF DUTIES**

The Commissioner of Agriculture has assigned the administrative and enforcement duties and functions assigned to him in the North Carolina Pesticide Law of 1971 to the food and drug protection division of the North Carolina Department of Agriculture.

**AGRICULTURE - FOOD AND DRUG PROTECTION DIVISION**

---

*History Note:* Statutory Authority G.S. 143-438;  
Eff. February 1, 1976;  
Amended Eff. August 1, 1982; January 27, 1978.

**SECTION .0200 - RULES AND REGULATIONS ADOPTED BY REFERENCE**

- .0201 INSPECTORS MANUAL**
- .0202 E.P.A. INSPECTORS MANUAL**
- .0203 REGISTRATION: REREGISTRATION AND CLASSIFICATION PROCEDURES**
- .0204 UNIFORM POLICIES FOR REGISTRATION**
- .0205 COMPENDIUM OF REGISTERED PESTICIDES**
- .0206 COMMON AND CHEMICAL NAMES OF PESTICIDES**

*History Note:* Statutory Authority G.S. 143-461; 150B-14;  
Eff. February 1, 1976;  
Amended Eff. August 1, 1982; January 27, 1978;  
Repealed Eff. November 1, 1988.

- .0207 EXEMPTION OF AGENCIES FOR USE OF PESTICIDES IN EMERGENCIES**

*History Note:* Statutory Authority G.S. 143-437; 143-440; 143-461; 150B-14;  
Eff. August 7, 1977;  
Repealed Eff. November 1, 1988.

**SECTION .0300 - REGISTRATION**

- .0301 REGISTRATION CUSTOM-BLENDED PESTICIDE-FERTILIZER MIXTURES**

(a) Custom-blended pesticide-fertilizer mixtures are hereby exempted from the registration requirement of the North Carolina Pesticide Law of 1971 provided the following requirements are met:

(1) The custom blend is prepared to the order of the user and is not held in inventory; and

(2) The pesticide used in the blend bears end-use labeling directions providing for mixing with fertilizer or mixing with fertilizer is recommended in writing by an appropriate federal or state agency or official; and

(3) The custom blend is delivered to the user together with a copy of the pesticide end-use labeling which is registered and a statement specifying the composition of the mixture and proper application rate.

(b) In the context of these regulations, end-use labeling means labeling containing directions for use in pest control and otherwise meeting with federal requirements (40 CFR 156.10). Labeling stating that a product is intended for use only in manufacturing or formulating is not considered end-use labeling.

*History Note:* Statutory Authority G.S. 143-461(1);  
Eff. February 1, 1976;  
Amended Eff. November 1, 1989.

- .0302 NOTICE TO REGISTRANTS AND APPLICANTS**
- .0303 COPIES**
- .0304 ASSISTANCE**
- .0305 APPLICATION FOR REGISTRATION REQUIREMENTS**

*History Note:* Statutory Authority G.S. 143-442;  
Eff. February 1, 1976;  
Amended Eff. August 1, 1982; November 30, 1978; January 27, 1978;  
Repealed Eff. November 1, 1988.

- .0306 ADDITIONAL INFORMATION**

(a) Other information as authorized by the North Carolina Pesticide Law of 1971 may be requested to support application for registration of a pesticide. Such other information may include but is not limited to the following:



---

**AGRICULTURE - FOOD AND DRUG PROTECTION DIVISION**

---

- (1) additional details on directions for use;
  - (2) a list of the specific pests for which control is claimed including efficacy data verifying control of said pest;
  - (3) a complete formula including the active and inert ingredients, and physical properties of the product.
- (b) Additional information shall be submitted in the form of a data sheet.

*History Note:* Statutory Authority G.S. 143-442;  
Eff. February 1, 1976.

**.0307 REVIEW OF APPLICATION FOR COMPLETENESS**

*History Note:* Statutory Authority G.S. 143-442;  
Eff. February 1, 1976;  
Amended Eff. August 1, 1982; November 30, 1978; January 27, 1978;  
Repealed Eff. November 1, 1988.

**.0308 REGISTRATION FOR THE FOLLOWING YEAR**

Registration of a pesticide registered the previous year will be renewed provided its registration status with the Environmental Protection Agency remains unchanged at the time of review and its continued use in North Carolina is in the best interest of the public.

*History Note:* Statutory Authority G.S. 143-442;  
Eff. February 1, 1976.

**.0309 DISCONTINUED PRODUCTS**

*History Note:* Statutory Authority G.S. 143-442;  
Eff. February 1, 1976;  
Repealed Eff. November 1, 1988.

**.0310 REREGISTRATION**

Reregistration of a pesticide registered the previous year with the label or labeling revised and amended in the interim period will be accepted provided the following conditions are met:

- (1) The revision and amendment have been accepted by the Environmental Protection Agency or approved for special local needs;
- (2) The revision and amendment will cause no unreasonable adverse effects on the environment or hazards to humans, domestic animals, and wildlife; and
- (3) Its continued registration is desirable and will be in the best public interest.

*History Note:* Statutory Authority G.S. 143-442;  
Eff. February 1, 1976.

**.0311 NEW REGISTRATIONS****.0312 DENIAL OF REGISTRATION**

*History Note:* Statutory Authority G.S. 143-442; 143-464;  
Eff. February 1, 1976;  
Amended Eff. August 1, 1982; January 27, 1978;  
Repealed Eff. November 1, 1988.

**.0313 REFUNDS OF FEES**

In the event registration is denied, the registration fee is refunded to the applicant along with reasons for denial.

*History Note:* Statutory Authority G.S. 143-442; 143-464;  
Eff. February 1, 1976.

**.0314 PESTICIDE REGISTRATION CERTIFICATION****.0315 REGISTRATION RECORDS**

*History Note:* Statutory Authority G.S. 143-442;



AGRICULTURE - FOOD AND DRUG PROTECTION DIVISION

*Eff. February 1, 1976;*  
*Amended Eff. November 30, 1978;*  
*Repealed Eff. November 1, 1988.*

**.0316 COMMON AND CHEMICAL NAMES OF PESTICIDES**

The North Carolina Pesticide Board adopts by reference in accordance with G.S. 150B-14(c) the volume entitled "Acceptable Common Names and Chemical Names for the Ingredient Statement on Pesticide Labels," as published by the Office of Pesticide Programs of the Environmental Protection Agency, Washington, D.C. Copies of "Acceptable Common Names and Chemical Names for the Ingredient Statement on Pesticide Labels" are available for inspection in the Office of the Pesticide Administrator of the Food and Drug Protection Division and may be obtained at a cost as determined by the publisher by contacting National Technical Information Service, U.S. Department of Commerce, Springfield, Va. 22161.

*History Note: Statutory Authority G.S. 143-461; 150B-14;*  
*Eff. November 1, 1988.*

**.0317 REGISTRATION OF PESTICIDES TO MEET SPECIAL LOCAL NEEDS**

The North Carolina Pesticide Board adopts by reference in accordance with G.S. 150B-14(c), "Regulations Pertaining to State Registration of Pesticides to Meet Special Local Needs," 40 C.F.R. Part 162, Subpart D. This reference establishes procedures and criteria under which the state may register pesticide products, or any uses thereof, formulated for distribution and use within the state to meet special local needs under Section 24(c) of the Federal Insecticide, Fungicide, and Rodenticide Act (7 U.S.C. 136 et seq.). Copies of "Regulations Pertaining to State Registration of Pesticides to Meet Special Local Needs" are available for inspection in the Office of the Pesticide Administrator of the Food and Drug Protection Division and may be obtained at a cost as determined by the publisher by contacting Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

*History Note: Statutory Authority G.S. 143-437; 143-440; 143-461; 150B-14;*  
*Eff. November 1, 1988.*

**.0318 EXEMPTION OF AGENCIES FOR USE OF PESTICIDES IN EMERGENCIES**

The North Carolina Pesticide Board hereby adopts by reference in accordance with G.S. 150B-14(c) "Exemption of Federal and State Agencies for Use of Pesticides in Emergencies," 40 C.F.R. Section 166. This reference establishes criteria for determining the conditions under which an emergency exists, the procedures for obtaining an exemption, and sets forth requirements related thereto. Copies of "Exemption of Federal and State Agencies for Use of Pesticides in Emergencies" are available for inspection in the Office of Pesticide Administrator of the Food and Drug Protection Division and may be obtained at a cost as determined by the publisher by contacting Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

*History Note: Statutory Authority G.S. 143-437; 143-440; 143-461; 150B-14;*  
*Eff. November 1, 1988.*

**SECTION .0400 - SAMPLES AND SUBMISSIONS****.0401 SAMPLES: SUBMISSIONS**

*History Note: Statutory Authority G.S. 143-446;*  
*Eff. February 1, 1976;*  
*Amended Eff. August 1, 1982; January 27, 1978;*  
*Repealed Eff. November 1, 1988.*

**.0402 TOLERANCES**

In regards to establishing tolerances providing for reasonable deviations from the guaranteed analysis statement, the following guidelines are adopted:

(1) that, in general, a "passed" judgment on a pesticide formulation be made if the analytical results are within the following guidelines:

AGRICULTURE - FOOD AND DRUG PROTECTION DIVISION

Pesticide Active Ingredient Guarantee, Percent	Allowable Deviation Below Guarantee
<1.00	15 percent of Guarantee
1.00 - 19.99	5 percent of Guarantee
20.00 - 49.99	3 percent of Guarantee
50.00 - 100.00	2 percent of Guarantee

## Additional considerations:

- (a) If a sufficient number of samples as determined by the food and drug protection division of a given product indicate that the manufacturer is not formulating the product to achieve the level of the guarantee, an administrative judgment may be made to warn the formulator against the practice of formulating products in a manner only to stay within the allowable deviation from the guarantee.
- (b) A sample result falling outside of the guidelines may not necessarily be "deficient" if one of the following factors could reasonably be expected to have contributed significantly to the off-limits analysis:
  - (i) special sampling problems, such as fertilizer-pesticide mixtures and certain granular products;
  - (ii) accuracy, specificity, reproducibility, etc., of the methods used when applied to the particular formulation;
- (2) that, allowable deviations, similar to those for "deficiencies," are not applicable to "overages." Each sample analysis will be judged individually as to whether or not the overage is excessive by using the following criteria:
  - (a) no illegal residues resulting from use according to directions;
  - (b) no significant additional hazard to applicator or user;
  - (c) no significant damage to non-target organisms or the environment;
  - (d) stability of ingredients and the need for "over-formulating";
  - (e) accuracy, specificity, reproducibility, etc., of the methods used when applied to the particular formulation.

*History Note:* Statutory Authority G.S. 143-437(1); 143-446;  
 Eff. February 1, 1976;  
 Amended Eff. November 1, 1988; August 1, 1982; January 27, 1978.

**.0403 PESTICIDE SAMPLING PROCEDURES**

*History Note:* Statutory Authority G.S. 143-443; 143-446;  
 Eff. February 1, 1976;  
 Repealed Eff. November 1, 1988.

**SECTION .0500 - PESTICIDE LICENSES****.0501 CRITERIA FOR PESTICIDE DEALER**

*History Note:* Statutory Authority G.S. 143-448; 143-449; 143-460(30);  
 Eff. February 1, 1976;  
 Repealed Eff. September 1, 1987.

**.0502 LIST OF RESTRICTED USE PESTICIDES**

For the purpose of this Regulation a restricted use pesticide is:

- (1) any pesticide required by the environmental protection agency to bear the designation on its labeling "Restricted Use Pesticide";

*History Note:* Filed as an Emergency Amendment [(e)] Eff. July 8, 1977, for a Period of 176 Days to Expire on December 31, 1977;  
 Statutory Authority G.S. 143-440(a),(b); 143-441; 143-458;  
 Eff. February 1, 1976;  
 Amended Eff. April 21, 1977;  
 Emergency Amendment [(e)] Expired Eff. December 31, 1977;  
 Amended Eff. January 1, 1990; August 1, 1982; January 1, 1979;  
 June 30, 1978.



AGRICULTURE - FOOD AND DRUG PROTECTION DIVISION**.0503 PESTICIDE APPLICATORS**

(a) The Commissioner shall require the licensing of at least one person at each business location who must be responsible for the application of pesticides for routine pest control situations.

(b) The person licensed as the pesticide applicator, if he personally is not directly involved in use of pesticides, shall supervise and guide the activities of all personnel applying pesticides from the business location of the licensee.

*History Note: Statutory Authority G.S. 143-452; 143-453; 143-460(30);  
Eff. February 1, 1976.*

**.0504 DEFINITIONS**

The following definitions apply to 2 NCAC 9L .0505 — Classifications, 2 NCAC 9L .0506 — Governmental Workers, and 2 NCAC 9L .0507 — Categories of Consultants:

(1) "Agricultural pest control":

(a) Plant. Includes pesticide applicators using or supervising the use of pesticides in production of agricultural crops, including without limiting the foregoing, tobacco, peanuts, cotton, feed grains, soybeans and forage; vegetables; small fruits; tree fruits and nuts; as well as on grasslands and non-crop agricultural lands;

(b) Animal. Includes pesticide applicators using or supervising the use of pesticides on animals, including without limiting the foregoing, beef cattle, dairy cattle, swine, sheep, horses, goats, poultry, and livestock, and to places on or in which animals are confined. Doctors of veterinary medicine engaged in the business of applying pesticides for hire, publicly holding themselves out as pesticide applicators or engaged in large-scale use of pesticides are included in this category.

(2) "Forest pest control" includes pesticide applicators using or supervising the use of pesticides in forests, forest nurseries, and forest seed-producing areas.

(3) "Ornamental and turf pest control" includes pesticide applicators using or supervising the use of pesticides to control pests in the maintenance and production of ornamental trees, shrubs, flowers, and turf.

(4) "Seed treatment" includes pesticide applicators using or supervising the use of pesticides on seeds.

(5) "Aquatic pest control" includes pesticide applicators using or supervising the use of any pesticide purposefully applied to standing or running water, excluding applicators engaged in public health related activities included in Category (7) of this Rule.

(6) "Right-of-way pest control" includes pesticide applicators using or supervising the use of pesticides in the maintenance of public roads, electric powerlines, pipelines, railway rights-of-way or other similar areas.

(7) "Public health pest control" includes primarily, but is not limited to, state, federal, or other governmental employees using or supervising the use of pesticides in public health programs for the management and control of pests having medical and public health importance.

(8) "Regulatory pest control" includes state, federal, or other governmental employees who use or supervise the use of pesticides in the control of regulated pests.

(9) "Demonstration and research pest control" includes the following:

(a) individuals who demonstrate to the public the proper use and techniques of application of pesticides or supervise such demonstration; and

(b) persons who, on conducting field research with pesticides, use or supervise the use of pesticides. Included in the first group are such persons as extension specialists and county agents, commercial representatives demonstrating pesticide products and those individuals demonstrating methods used in public programs. The second group includes state, federal, commercial and other persons conducting field research on or utilizing pesticides

(10) "Wood treatment" includes pesticide applicators using or a supervising the use of restricted use pesticides in wood preservation and wood products treatment.

*History Note: Statutory Authority G.S. 143-452(d); 143-460(29); 143-460(33);  
Eff. February 1, 1976;  
Amended Eff. November 1, 1984; August 1, 1982; October 27, 1979.*

**AGRICULTURE - FOOD AND DRUG PROTECTION DIVISION**

---

**.0505 CLASSIFICATIONS**

The following classifications and subclassifications are hereby established for the licensing of pesticide applicators:

- (1) pesticide applicators and public operators utilizing ground equipment:
  - (a) agricultural pest control:
    - (i) plant;
    - (ii) animal;
  - (b) forest pest control;
  - (c) ornamental and turf pest control;
  - (d) aquatic pest control;
  - (e) right-of-way pest control;
  - (f) public health pest control;
  - (g) regulatory pest control;
  - (h) demonstration and research pest control:
    - (i) agricultural pest control:
      - (A) plant;
      - (B) animal;
    - (ii) forest pest control;
    - (iii) ornamental and turf pest control;
    - (iv) aquatic pest control;
    - (v) right-of-way pest control;
    - (vi) public health pest control;
    - (vii) regulatory pest control;
    - (viii) seed treatment;
    - (ix) wood treatment;
      - (i) seed treatment;
      - (j) wood treatment;
- (2) pesticide applicators and public operators utilizing aerial equipment:
  - (a) agricultural pest control: plant;
  - (b) forest pest control;
  - (c) ornamental and turf pest control;
  - (d) aquatic pest control;
  - (e) right-of-way pest control;
  - (f) public health pest control;
  - (g) regulatory pest control;
  - (h) demonstration and research pest control:
    - (i) agricultural pest control: plant;
    - (ii) forest pest control;
    - (iii) ornamental and turf pest control;
    - (iv) aquatic pest control;
    - (v) right-of-way pest control;
    - (vi) public health pest control;
    - (vii) regulatory pest control.

*History Note:*      *Statutory Authority G.S. 143-452(d); 143-460(29),(33);*  
                          *Eff. February 1, 1976;*  
                          *Amended Eff. November 1, 1984; August 26, 1976.*

**.0506 GOVERNMENTAL WORKERS**

Persons in job classifications in the government unit or agencies listed below are required to be licensed as public operators:

- (1) North Carolina Department of Transportation, division of highway (14 divisions);
- (2) United States Department of Agriculture, Animal and Plant Health Inspection Service:
  - (a) staff specialist for witchweed control,
  - (b) assistant district director,
  - (c) work unit supervisors,
  - (d) designated inspectors who supervise pesticide applications,
  - (e) witchweed methods development laboratory supervisor,



**AGRICULTURE - FOOD AND DRUG PROTECTION DIVISION**

---

- (f) witchweed methods development assistant laboratory supervisor;
- (3) North Carolina Department of Agriculture plant industry division:
  - (a) plant pest administrator,
  - (b) entomological program specialist,
  - (c) plant pathologist,
  - (d) greenhouse manager,
  - (e) area supervisors,
  - (f) pest control specialists,
  - (g) all plant pest inspectors who have supervision of pesticide applications as part of their job assignments;
- (4) North Carolina Department of Environment, Health, and Natural Resources, Forest Resources Division, pest control unit:
  - (a) pest control foresters,
  - (b) pest control staff forester,
  - (c) nursery unit superintendents,
  - (d) tree improvement unit technicians,
  - (e) forestation unit rangers;
- (5) North Carolina Department of Environment, Health, and Natural Resources, Public Health Pest Management Section, Division of Environmental Health—one medical entomologist;
- (6) County boards of health and municipal governments:
  - (a) In counties where the health department employees apply all the pesticides or supervise, on a weekly or more frequent basis, the activities of all municipal employees applying pesticides, at least one county sanitarian must be licensed.
  - (b) One county sanitarian and one municipal employee for each municipality must be licensed in counties where the health department personnel apply pesticides but have no direct control over municipal employees who apply pesticides.
  - (c) One licensed supervisor for each municipality, sanitary district or mosquito control district must be licensed in counties where only municipal, sanitary district or mosquito control district personnel apply pesticides.

*History Note:* Statutory Authority G.S. 143-453(c)(1); 143-460(33);  
 Eff. February 1, 1976;  
 Amended Eff. May 1, 1991; August 1, 1982; January 27, 1978.

**.0507 CATEGORIES OF CONSULTANTS**

Each person acting as a pest control consultant as defined in the North Carolina Pesticide Law of 1971 is required to be licensed. The categories requiring a license may include but are not limited to the following:

- (1) agricultural pest control:
  - (a) plant,
  - (b) animal;
- (2) forest pest control;
- (3) ornamental and turf pest control;
- (4) aquatic pest control;
- (5) right-of-way pest control;
- (6) public health pest control;
- (7) regulatory pest control;
- (8) seed treatment;
- (9) wood treatment.

*History Note:* Statutory Authority G.S. 143-455; 143-460(27);  
 Eff. February 1, 1976;  
 Amended Eff. November 1, 1984; October 28, 1978; January 27, 1978.

**.0508 SUBCATEGORIES OF CONSULTANTS**

*History Note:* Statutory Authority G.S. 143-455; 143-460(27);  
 Eff. February 1, 1976;

---

**AGRICULTURE - FOOD AND DRUG PROTECTION DIVISION**

---

*Amended Eff. August 1, 1982; January 27, 1978;  
Repealed Eff. November 1, 1988.*

**.0509 CONSULTANT EDUCATION REQUIREMENTS**

(a) An applicant for a pest control consultant license must possess a Ph.D., master's, or bachelor's degree in an agricultural or biological science from an accredited college or university with a minimum of 30 semester hours or 45 quarter hours of credit in subject areas pertinent to the category in which the applicant seeks to obtain a license. Emphasis of study must include insect, plant, bacterial, and fungal pests, as applicable to the category, and integrated pest management. As used in this Rule, "accredited college or university" means an institution that is accredited by an accrediting commission recognized by the Council on Post-Secondary Accreditation.

(b) The provisions of this Section shall not apply to anyone holding a valid North Carolina pest control consultant license on or before July 1, 1992.

*History Note: Statutory Authority G.S. 143-455; 143-460(27);  
Eff. February 1, 1976;  
Amended Eff. July 1, 1992; November 1, 1988.*

**.0510 EXAMINATION WAIVER****.0511 PESTICIDE LICENSES EXAMINATION REQUIREMENT**

*History Note: Statutory Authority G.S. 143-449(b); 143-452(f); 143-453(b); 143-455;  
143-460(27),(29),(30),(33);  
Eff. February 1, 1976;  
Amended Eff. October 28, 1978;  
Repealed Eff. November 1, 1988.*

**.0512 AGE REQUIREMENT**

Each applicant for a license must be 18 years old by January 1 of the calendar year for which he has submitted an application for a license provided, however, in hardship cases persons below the age of 18 may be licensed by the Board on an individual basis when they demonstrate to the Board by written, or written and oral, examination their qualifications to sell or apply pesticides.

*History Note: Statutory Authority G.S. 143-449(b); 143-452(f); 143-453(b); 143-455(c);  
Eff. February 1, 1976.*

**.0513 FEES REQUIREMENT****.0514 SCHEDULE OF EXAMINATIONS**

*History Note: Statutory Authority G.S. 143-449(b); 143-452(f); 143-453(b); 143-455(a)(c);  
Eff. February 1, 1976;  
Amended Eff. August 1, 1982; October 27, 1979; January 27, 1978;  
Repealed Eff. November 1, 1988.*

**.0515 RE-EXAMINATIONS**

Any applicant not passing the initial examination will be allowed to retake the examination two times for that calendar year.

*History Note: Statutory Authority G.S. 143-449(b); 143-452(f); 143-453(b); 143-455(c);  
Eff. February 1, 1976;  
Amended Eff. October 27, 1979.*

**.0516 CONTINUANCES**

Any firm, corporation, or government unit which is deprived of the services of the sole individual at an outlet who is licensed as a pesticide dealer may continue to operate in their usual manner for a maximum of two months, provided that a request for an examination appointment is directed to the food and drug protection division of the North Carolina Department of Agriculture for a designated individual within two weeks of that date when the services of their licensed pesticide dealer was terminated, and an individual is available



AGRICULTURE - FOOD AND DRUG PROTECTION DIVISION

who has worked in pesticide sales under the supervision of a licensed pesticide dealer for at least three months and which person will supervise pesticide sales during the interim period.

*History Note:* Statutory Authority G.S. 143-449(b);  
Eff. February 1, 1976;  
Amended Eff. August 1, 1982; January 27, 1978.

**.0517 PASSING GRADES**

Passing grade for the examinations will be grade 70.

*History Note:* Statutory Authority G.S. 143-449(b); 143-453(b); 143-455(c);  
Eff. February 1, 1976;  
Amended Eff. September 1, 1987.

**.0518 FINANCIAL RESPONSIBILITY FOR PESTICIDE APPLICATORS**

*History Note:* Statutory Authority G.S. 143-467(a) through (c);  
Eff. February 1, 1976;  
Repealed Eff. December 31, 1977.

**.0519 CERTIFICATION**

(a) Commercial pesticide applicators, public operators, and pest control consultants, as defined by the North Carolina Pesticide Law of 1971, who have successfully completed the pesticide license examination requirements of G.S. 143-453 or 143-455, as applicable, are certified to use or supervise the use of any restricted use pesticide, as defined by Rule .0502(1) of this Section. Certification is valid only for those uses covered by the certified individual's certification, as defined by Rule .0504 of this Section.

(b) The term of certification shall be five years for individuals licensed to use ground equipment and two years for individuals (contractors and pilots) licensed to use aerial equipment; however, all individuals must renew their pesticide license annually, as required in the North Carolina Pesticide Law of 1971.

*History Note:* Statutory Authority G.S. 143-437(1); 143-440(b); 143-452(a); 143-453(c)(2);  
143-455(d);  
Eff. September 10, 1980;  
Amended Eff. January 1, 1990.

**.0520 RECERTIFICATION REQUIREMENTS**

(a) In order to insure that certified commercial pesticide applicators, public operators, and pest control consultants continue to meet the needs of changing technology necessary for the safe and effective use of pesticides, they shall be subject to recertification requirements as herein defined.

(b) In no event will the license of a certified commercial pesticide applicator, public operator, or pest control consultant continue to be renewed annually for more than five years for individuals licensed to use ground equipment or two years for individuals (contractors and pilots) licensed to use aerial equipment unless the individual has been recertified through one of the options in Rule .0522 of this Section.

*History Note:* Statutory Authority G.S. 143-437(1); 143-440(b); 143-452(a); 143-453(c)(2);  
143-455(d);  
Eff. September 10, 1980.

**.0521 RECERTIFICATION CREDIT COMMITTEE**

*History Note:* Statutory Authority G.S. 143-437(1);  
Eff. September 10, 1980;  
Amended Eff. August 1, 1982;  
Repealed Eff. November 1, 1988.

**.0522 RECERTIFICATION OPTIONS**

(a) Completion of approved Continuing Certification Credit Requirements in the pest

**AGRICULTURE - FOOD AND DRUG PROTECTION DIVISION**

control category in which the individual is certified and desires to retain certification. A Continuing Certification Credit is defined as one hour of approved Continuing Certification Training. Continuing Certification Training must be approved by the Board and such training may consist of grower meetings, seminars, short courses, or other presentations taught by extension pesticide personnel, or other privately or publicly sponsored training organizations approved by the Board. Continuing Certification Credit Requirements for each pest control category are as follows:

- |                                 |                              |
|---------------------------------|------------------------------|
| (1) aquatic                     | 6 credits per 5-year period  |
| (2) public health               | 6 credits per 5-year period  |
| (3) forest                      | 6 credits per 5-year period  |
| (4) right-of-way                | 4 credits per 5-year period  |
| (5) regulatory                  | 6 credits per 5-year period  |
| (6) ag pest-animal              | 6 credits per 5-year period  |
| (7) ornamental and turf         | 10 credits per 5-year period |
| (8) seed treatment              | 3 credits per 5-year period  |
| (9) ag pest-plant               | 10 credits per 5-year period |
| (10) demonstration and research | 10 credits per 5-year period |

The Continuing Certification Credits required may consist of any combination of credits divided between training in the primary categories (1) through (9) of this Rule and training in demonstration and research.

- |  |                             |
|--|-----------------------------|
| (11) aerial  | 4 credits per 2-year period |
| The Continuing Certification Credits required must include one credit obtained through training in aerial methods.   |                             |
| (12) wood treatment  | 4 credits per 5-year period |
| The Continuing Certification Credits established for each ground application pest control category must be obtained in at least two years of the five-year period. |                             |

(b) Participation in one training session conducted by extension pesticide personnel, or other approved organizations, during the recertification period, and satisfactory passing of a written comprehensive examination administered by the North Carolina Department of Agriculture personnel at the conclusion of training.

(c) Satisfactory passing of a written comprehensive examination administered by North Carolina Department of Agriculture personnel and based on training materials which have been approved by the Board.

*History Note:* Statutory Authority G.S. 143-437(1); 143-440(b); 143-453(c)(2); 143-455(d);  
Eff. September 10, 1980;  
Amended Eff. November 1, 1984.

**.0523 RECERTIFICATION IN ADDITIONAL CATEGORIES**

(a) Individuals desiring to retain certification in more than one pest control category must complete for each category any one of the recertification options described in Rule .0522 of this Section.

(b) Individuals desiring to retain certification through Continuing Certification Training in more than one ground pest control category may do so upon completion of total Continuing Certification Credit Requirements in the category carrying the highest credit requirements, by completing three Continuing Certification Credits in each additional category.

(c) Individuals desiring to retain certification through Continuing Certification Training in more than one aerial pest control category may do so upon completion of total Continuing Certification Credit Requirements in any one category, by completing one Continuing Certification Credit in each additional category.

*History Note:* Statutory Authority G.S. 143-437(1); 143-440(b); 143-453(c)(2); 143-455(d);  
Eff. September 10, 1980;  
Amended Eff. October 22, 1981.

**.0524 EXPIRATION OF CERTIFICATION**

(a) The recertification period shall expire on June 30th.



AGRICULTURE - FOOD AND DRUG PROTECTION DIVISION

(b) At the direction of the Board, each certified individual will be notified 6-9 months prior to the recertification expiration date of the individual's remaining requirements for recertification.

(c) A certified individual who has completed none of the recertification options in Rule .0522 of this Section prior to the recertification expiration date shall be required to retake and satisfactorily pass a comprehensive license examination defined in G.S. 143-453 or 143-455 before a license will be reissued in any category. This examination will be based on updated training materials approved by the Board.

(d) No individual will be allowed to carry over any Continuing Certification Credits from one recertification period to another.

*History Note: Statutory Authority G.S. 143-437(1); 143-440(b); 143-453(c)(2); 143-455(d); Eff. September 10, 1980; Amended Eff. February 4, 1993; November 1, 1988.*

**.0525 RECERTIFICATION OF PESTICIDE DEALERS**

(a) Pesticide dealers who have successfully completed the pesticide license examination requirements of G.S. 143-449 are certified for a period of five years; however, all such individuals must renew their pesticide licenses annually, as required in the North Carolina Pesticide Law of 1971.

(b) In order to insure that certified pesticide dealers continue to meet the needs of changing technology necessary for the safe and effective use of pesticides, they shall be subject to recertification requirements as herein defined.

(c) In no event will the license of a pesticide dealer continue to be renewed annually for more than five years unless the individual has been recertified through one of the options in Rule .0526 of this Section.

*History Note: Statutory Authority G.S. 143-448; 143-449; Eff. October 22, 1981; Amended Eff. November 1, 1988.*

**.0526 PESTICIDE DEALER RECERTIFICATION OPTIONS**

(a) A pesticide dealer may be recertified by completing five approved Pesticide Dealer Continuing Certification Credits. A Pesticide Dealer Continuing Certification Credit is defined as one hour of approved Pesticide Dealer Continuing Certification Training. Such training must be approved by the Board and may consist of meetings, seminars, short courses, or other presentations taught by extension pesticide personnel, or other privately or publicly sponsored training organizations approved by the Board. The Continuing Certification Credits must be obtained in at least two years of the five-year period.

(b) Instead of completing five certification credits, a pesticide dealer may be recertified by passing a written comprehensive examination administered by NCDA personnel and based on training materials which have been approved by the Board.

*History Note: Statutory Authority G.S. 143-448; 143-449; Eff. October 22, 1981.*

**.0527 EXPIRATION OF PESTICIDE DEALER CERTIFICATION**

Pesticide dealers will be subject to the same certification expiration requirements as set forth in Rule .0524; Expiration of Certification.

*History Note: Statutory Authority G.S. 143-448; 143-449; Eff. October 22, 1981.*

**.0528 RECERTIFICATION CREDIT APPROVAL**

(a) The pesticide section shall receive requests for approval of sponsored training toward recertification, evaluate each proposed program based on criteria approved by the Board, and assign appropriate Continuing Certification Credits for each program. Each such assignment shall be reviewable by the Board.

(b) Continuing Certification Credit assignment shall be in increments of no less than one-half hour.

---

**AGRICULTURE - FOOD AND DRUG PROTECTION DIVISION**

---

*History Note:* Statutory Authority G.S. 143-437;  
Eff. November 1, 1988.

**SECTION .0600 - PESTICIDE AND PESTICIDE CONTAINER DISPOSAL****.0601 DEFINITIONS**

The following definitions will be in effect throughout 2 NCAC 9L .0600:

- (1) "Container" means any package, can, bottle, bag, barrel, drum, tank, or other containing device (excluding spray applicator tanks) used to enclose a pesticide or pesticide-related wastes.
- (2) "Excess pesticides" means all pesticides which cannot be legally sold or which are to be discarded.
- (3) "Pesticide-related wastes" means all pesticide-containing wastes or by-products which are produced in the manufacturing or processing of a pesticide and which are to be discarded, but which, pursuant to acceptable pesticide manufacturing or processing operations, are not ordinarily a part of or contained within an industrial waste stream discharged into a sewer or the waters of the state.
- (4) "Safe disposal" means discarding pesticides or containers in a permanent manner so as to comply with these procedures and so as to avoid unreasonable adverse effects on the environment.

*History Note:* Statutory Authority G.S. 143-441;  
Eff. February 1, 1976;  
Amended Eff. December 1, 1989.

**.0602 DISPOSAL OF PESTICIDES**

(a) In considering disposal techniques, first preference shall be given to procedures designed to recover some useful value from excess pesticides. Whenever possible, excess pesticide shall be used according to its labeling for the purpose originally intended.

(b) Excess pesticides and pesticide-related wastes shall be disposed of in accordance with labeling requirements. Note: In addition to the requirements of these rules, disposal of excess pesticides and pesticide-related wastes is also subject to rules adopted by the North Carolina Commission for Health Services as set forth in 15A NCAC 13A, Hazardous Waste Management, and 13B, Solid Waste Management, as applicable.

*History Note:* Statutory Authority G.S. 143-441;  
Eff. February 1, 1976;  
Amended Eff. October 1, 1991; December 1, 1989.

**.0603 DISPOSAL OF PESTICIDE CONTAINERS**

(a) Prior to disposal, all pesticide containers shall be thoroughly emptied, using the practices commonly employed to remove materials from that type of container; e.g., shaking, pumping, pouring, triple-rinsing (or equivalent) and draining into the application tank. The materials so removed shall be applied to the labeled site or otherwise disposed of in accordance with these rules.

(b) Pesticide containers shall be disposed of in accordance with labeling requirements. Note: In addition to the requirements of these rules, pesticide container disposal is also subject to rules adopted by the North Carolina Commission for Health Services as set forth in 15A NCAC 13A, Hazardous Waste Management, and 13B, Solid Waste Management, as applicable, and to rules adopted by the North Carolina Environmental Management Commission as set forth in 15A NCAC 2D, Air Pollution Control Requirements.

*History Note:* Statutory Authority G.S. 143-441;  
Eff. February 1, 1976;  
Amended Eff. October 1, 1991; December 1, 1989.

**.0604 PROHIBITED DISPOSAL PROCEDURES**

No person shall dispose of any pesticide or pesticide container in any of the following manners:

- (1) in a manner inconsistent with these rules;
- (2) so as to cause or allow open dumping of pesticides or pesticide containers;



AGRICULTURE - FOOD AND DRUG PROTECTION DIVISION

- (3) so as to cause or allow open burning of pesticides or pesticide containers;
- (4) so as to cause or allow water dumping, or ocean dumping; or
- (5) so as to violate any applicable provisions of the North Carolina Pesticide Law.

*History Note:* Statutory Authority G.S. 143-441;  
Eff. February 1, 1976;  
Amended Eff. December 1, 1989.

**SECTION .0700 - DECLARATION OF PESTS AND RESTRICTIONS ON THEIR CONTROL**

**.0701 ORCHARD RATS**

The North Carolina Pesticide Board hereby declares as a pest pine voles [*Pitymys* (or *Microtus*) *Pinetorum*] and meadow voles (*Microtus pennsylvanicus*), (commonly called orchard rats) on or immediately adjacent to cultivated land; forest plantations; ornamentals nurseries; orchards; or horticultural plantings in institutional, recreational, and residential areas.

*History Note:* Statutory Authority G.S. 143-444(1);  
Eff. February 1, 1976;  
Amended Eff. March 1, 1993.

**.0702 RESTRICTIONS CONCERNING CONTROL OF ORCHARD RATS**

Pesticides used to control these species must be applied so as to minimize the hazards to nontarget species and that the use of endrin be confined to the period after harvest and before apple trees break dormancy in spring.

*History Note:* Statutory Authority G.S. 143-458;  
Eff. February 1, 1976.

**.0703 GULLS**

The North Carolina Pesticide Board hereby declares as a pest gulls (members of the genus *Larus*) on or near airport runways when they occur in such manner as to endanger air traffic.

*History Note:* Statutory Authority G.S. 143-444(1);  
Eff. February 1, 1976.

**.0704 RESTRICTIONS CONCERNING CONTROL OF GULLS**

Use of pesticides against gulls at airports shall be used only under specific permit to be issued for a period of not more than 12 months by the North Carolina Pesticide Board for specified airports and for the use of specified pesticides.

*History Note:* Statutory Authority G.S. 143-458;  
Eff. February 1, 1976.

**.0705 RESTRICTIONS CONCERNING CONTROL OF PIGEONS**

The North Carolina Pesticide Board hereby establishes the following restrictions concerning the use of pesticides in controlling the pigeon (rock dove) *Columba livia*:

- (1) that only materials registered for this purpose be used in accordance with directions on the label;
- (2) that the pesticides be distributed in such a manner as to minimize hazard to non-target species, and that all unconsumed bait which is not in protected bait stations be picked up within one week;
- (3) that in municipalities dead birds be picked up and disposed of by incineration or buried at intervals not to exceed 24 hours.

*History Note:* Statutory Authority G.S. 143-458;  
Eff. February 1, 1976.

**.0706 RED-WINGED BLACKBIRD**

(a) The North Carolina Pesticide Board hereby declares the red-winged blackbird, *agelaius phoeniceus* (linnaeus) to be a pest as provided for by law.

AGRICULTURE - FOOD AND DRUG PROTECTION DIVISION

(b) Pesticides registered for use to control the red-winged blackbird may be used when it is committing or about to commit depredations upon ornamental or shade trees, agricultural crops, livestock, or wildlife, or when concentrated in such numbers or manner as to constitute a health hazard or other nuisance.

*History Note:* Statutory Authority G.S. 143-444(1); 143-458;  
Eff. July 11, 1976

**SECTION .0800 - BULK DISTRIBUTION OF PESTICIDES****.0801 PROPRIETORSHIP**

The purchaser shall take title to any bulk pesticide formulation after the purchaser or his authorized agent accepts said bulk pesticide shipment at the designated container or storage tank site.

*History Note:* Statutory Authority G.S. 143-441; 143-459; 143-461(1);  
Eff. February 1, 1976.

**.0802 NOTIFICATION PRIOR TO DELIVERY**

The pesticide section of the food and drug protection division of the North Carolina Department of Agriculture shall receive notification from the formulator or manufacturer at least 24 hours prior to delivery of any bulk pesticide. This notification shall include:

- (1) the names and addresses of the pesticide formulator or manufacturer and purchaser,
- (2) the brand name and EPA registration number of the pesticide,
- (3) the exact location or valid and current decal number of the bulk storage tank to be filled with said bulk pesticide formulation,
- (4) the date and time of scheduled delivery to the bulk storage tank location.

*History Note:* Statutory Authority G.S. 143-459;  
Eff. February 1, 1976;  
Amended Eff. August 1, 1982; January 27, 1978; April 21, 1977.

**.0803 STORAGE TANK SPECIFICATIONS**

(a) Only containers or storage tanks which are unadulterated, leak proof, and capable of being sealed shall be filled with pesticides.

(b) All containers or storage tanks shall have a drain plug or drain basin designed in such a manner as to facilitate complete drainage of tanks.

(c) All containers or storage tanks of 1000 gallons or less shall have a filler or access port at least 10 inches in diameter and tanks greater than 1000 gallons at least 15 inches in diameter. These minimum sizes are required to facilitate proper cleanup or decontamination of drained tanks.

(d) Outlets and filler and access ports shall be locked at all times when not in use. Keys to the outlet, filler and access ports shall be in the possession of the purchaser and authorized employee only.

(e) All new containers or storage tanks shall be stainless steel, aluminum, mild steel or glass reinforced plastic. The minimum specifications for each are as follows:

Aluminum

<u>Size Tank</u>	<u>Shell</u>	<u>Heads—Dished &amp; Flanged</u>
500-1500	.156"	.156"
1500-6000	.188"	.188"

Stainless Steel—Type 304

<u>Size Tank</u>	<u>Shell</u>	<u>Heads—Dished &amp; Flanged</u>
500-1500	13 ga	13 ga
1500-6000	12 ga	12 ga



AGRICULTURE - FOOD AND DRUG PROTECTION DIVISIONMild Steel

<u>Size Tank</u>	<u>Shell</u>	<u>Heads—Dished &amp; Flanged</u>
500-1500	10 ga	10 ga
1500-6000	7 ga	7 ga

In lieu of dished and flanged heads, reinforced flat end tank may be used when designed according to ASME specifications (Section VIII for unfired pressure vessels).

Glass Reinforced Plastic

<u>Size Tank</u>	<u>Shell</u>	<u>Heads</u>
500	3/16"	3/16"
600-1000	9/32"	9/32"

(f) Pesticides designated by the manufacturer or formulator as corrosive to aluminum, stainless steel, mild steel or glass reinforced plastic shall not be stored in a bulk container fabricated with said material.

*History Note:* Statutory Authority G.S. 143-441;  
Eff. February 1, 1976.

**.0804 LABELING REQUIREMENTS**

(a) All containers and storage tanks of pesticides shall be properly labeled and shall comply with all other provisions of the North Carolina Pesticide Law of 1971 and the regulations established thereunder.

(b) All containers and storage tanks (excluding spray applicator tanks) must be labeled as registered. A copy of the label or labeling, including all appropriate directions for use, shall be securely attached to the container in the immediate vicinity of the discharge control valve by the vendor at the time of delivery.

(c) In addition, the appropriate signal words as shown on the label shall be shown on all four sides of the containers and storage tanks or those sides exposed to view. The words shall be either stenciled directly on the containers or storage tanks or placed on a sign of durable construction which is firmly attached to the containers and storage tanks. All letters of said words shall be a minimum of four inches in height and one inch in width, and shall be printed in contrasting colors to the containers and storage tanks which are readily visible.

(d) All entrances to premises on which bulk pesticides are stored shall be posted at a reasonable distance from the containers and storage tanks with a durable sign (minimum size 8" x 10") warning of hazardous pesticides in the area.

*History Note:* Statutory Authority G.S. 143-460(19), (20), (23);  
Eff. February 1, 1976.

**.0805 RECORD REQUIREMENTS**

The purchaser of bulk pesticides shall post within reasonable vicinity of the containers and storage tanks a record showing, by date, current volumes of pesticide in containers and storage tanks.

*History Note:* Statutory Authority G.S. 143-466(a);  
Eff. February 1, 1976.

**.0806 LOCATION REQUIREMENTS**

Bulk containers and storage tanks shall be located on sites least likely to endanger man and his environment. In cases of exceptional hazards, grading sufficient to retain spillage and/or fencing to prevent undue human exposure may be required. The food and drug protection division, North Carolina Department of Agriculture, shall make this determination. The food and drug protection division shall be notified in writing, containing specifics, of plans for relocation of a container at least 10 days prior to relocation.

---

**AGRICULTURE - FOOD AND DRUG PROTECTION DIVISION**

---

*History Note:* Statutory Authority G.S. 143-441; 143-466(a);  
Eff. February 1, 1976;  
Amended Eff. August 1, 1982; January 27, 1978.

**.0807 SAFETY REQUIREMENTS**

General safety and cleanliness shall be a practice within the area of the containers and storage tanks. Adequate transfer systems, valves, pumps, fittings, hoses, etc., including the maintenance thereof, shall be in effect at all times.

*History Note:* Statutory Authority G.S. 143-441;  
Eff. February 1, 1976.

**.0808 NOTIFICATION OF STORAGE TANK REQUIREMENTS**

The North Carolina Department of Agriculture, food and drug protection division, shall be annually notified in writing of the exact location of each container or storage tank off the premises of the formulator at least 15 days prior to the beginning of filling operations. An inspector of the North Carolina Department of Agriculture will by appointment with the owner inspect each container or storage tank within the aforementioned 15-day period. Any container or storage tank utilized for housing bulk pesticides prior to inspection and approval constitutes a violation of the North Carolina Pesticide Law of 1971.

*History Note:* Statutory Authority G.S. 143-441; 143-466;  
Eff. February 1, 1976;  
Amended Eff. August 1, 1982; January 27, 1978.

**.0809 COMPLIANCE REQUIREMENTS**

The owner of the container or storage tank shall be responsible for complying with all provisions of this article not otherwise specified.

*History Note:* Statutory Authority G.S. 143-434 through 143-470;  
Eff. February 1, 1976.

**SECTION .0900 - FORMS****.0901 DESIGNATIONS**

The forms used by the pesticide section of the food and drug protection division will be known by the following title and numerical designations:

- (1) Registration Information Letter—Form PC-400;
- (2) Official Report Transcript—Form PC-402;
- (3) Farm Inspection, Pesticide Use Sample—Form PC-403;
- (4) Incident Investigation Report—Form PC-404;
- (5) Application for Pesticide Dealer's License—Form PC-405;
- (6) Application for Pesticide Applicator's License—Form PC-406;
- (7) Application for Aerial Pesticide Applicator's License (Pilot)—Form PC-408;
- (8) Application for Aerial Pesticide Applicator's License (Contractor)—Form PC-409;
- (9) Application for Public Operator's (Pesticide Applicator) License—Form PC-411;
- (10) Application for Pest Control Consultant's License—Form PC-412;
- (11) Inspection Report of Aerial Application Equipment—Form PC-413.
- (12) Application for Registration of Pesticide and/or Product Data Sheet—Form PC-414;
- (13) Application for Renewal of Pesticide Registrations—Form PC-415;
- (14) Pesticide Registration Certification—Form PC-416;
- (15) Contingency Plan for Pesticide Storage—Form PC-417.

*History Note:* Statutory Authority G.S. 143-461;  
Eff. February 1, 1976;  
Amended Eff. November 1, 1988; January 1, 1984; August 1, 1982;  
November 30, 1978.

**.0902 FORM PC-400**



**AGRICULTURE - FOOD AND DRUG PROTECTION DIVISION**

---

*History Note:* Statutory Authority G.S. 143-461;  
Eff. February 1, 1976;  
Repealed Eff. November 1, 1988.

**.0903 FORM PC-401**

*History Note:* Statutory Authority G.S. 143-442; 143-461;  
Eff. February 1, 1976;  
Repealed Eff. November 30, 1978.

**.0904 FORM PC-402**

**.0905 FORM PC-403**

**.0906 FORM PC-404**

**.0907 FORM PC-405**

**.0908 FORM PC-406**

**.0909 FORM PC-407**

**.0910 FORM PC-408**

**.0911 FORM PC-409**

**.0912 FORM PC-410**

**.0913 FORM PC-411**

**.0914 FORM PC-412**

**.0915 FORM PC-413**

**.0916 COPIES AND SUBMISSIONS OF FORMS**

*History Note:* Statutory Authority G.S. 143-446; 143-448(b); 143-450; 143-452;  
143-454; 143-455;  
143-460(27),(29),(30),(33); 143-461; 143-466; 143-467;  
Eff. February 1, 1976;  
Amended Eff. August 1, 1982; January 27, 1978;  
Repealed Eff. November 1, 1988.

**.0917 FORM PC-414**

**.0918 FORM PC-415**

**.0919 FORM PC-416**

*History Note:* Statutory Authority G.S. 143-442; 143-461;  
Eff. November 30, 1978;  
Amended Eff. August 1, 1982; January 29, 1979;  
Repealed Eff. November 1, 1988.

**.0920 FORM PC-417**

*History Note:* Statutory Authority G.S. 143-441; 143-461;  
Eff. January 1, 1984;  
Repealed Eff. November 1, 1988.

**SECTION .1000 - AERIAL APPLICATION OF PESTICIDES**

**.1001 DEFINITIONS**

All specific words or terms used in this Section shall have the same definitions as shown in the North Carolina Pesticide Law of 1971, G.S. 143-460, or unless the context otherwise requires, other definitions shall be:

- (1) Agricultural Aircraft Operation. The operation of an aircraft for the purpose of dispensing any pesticide directly affecting agriculture, horticulture, forest preservation, or for any other pest control operation;
- (2) Adverse Effect. Personal injury, damage to personal property, damage to real property, damage to the environment or any combination of these;
- (3) Aircraft. A weight-carrying structure for navigation of the air that is supported either by its own buoyancy or by the dynamic action of the air against its surfaces; This shall include either fixed-wing or rotary-wing aircraft;

AGRICULTURE - FOOD AND DRUG PROTECTION DIVISION

- (4) Congested Areas. The same meaning as described in Federal Aviation Regulations (F.A.R.), Part 137;
- (5) Contractor. Any person who owns or manages an aerial application business which is engaged in the custom application of pesticides;
- (6) Custom Application. Any application of pesticides by aircraft for which service a payment is made;
- (7) Drift. The airborne movement of pesticides resulting from the application of pesticides such as to carry the pesticides beyond the target area;
- (8) Emergency. An occurrence which can impair public health, safety or result in injury, damage, or loss of life which calls for immediate action; An emergency may be minor or of such magnitude as to create a disaster;
- (9) Environment. Water, air, land and all plants and man and other animals living therein and the interrelationships which exist among these;
- (10) F.A.R.-137. Federal Aviation Regulations Volume VII, Part 137, as amended through September 10, 1980, relating to agricultural aircraft operations;
- (11) Pilot. The person in control of the aircraft during the application of a pesticide;
- (12) Registered Apiary—an apiary registered with the North Carolina Department of Agriculture;
- (13) Respirator. A respirator or mask of a type that has been tested by the National Institute of Occupational Safety and Health and found to be satisfactory for protection against the particular pesticide being used;
- (14) Spray Equipment. The equipment used for spraying liquid mixtures of pesticides in an agricultural aircraft operation;
- (15) Target Area. Intended site of pesticide application;
- (16) Toxicity Category I Pesticides. Any pesticide products which are required to display the signal word "Danger" prominently on the label.

*History Note: Statutory Authority G.S. 143-458; 143-463;  
 Eff. July 2, 1976;  
 Amended Eff. January 1, 1985.*

**.1002 GENERAL REQUIREMENTS**

(a) All agricultural aircraft operations in North Carolina shall comply with the Federal Occupational Safety and Health Act of 1971 (OSHA), the North Carolina Occupational Safety and Health Law, all regulations promulgated thereunder and the Federal Aviation Regulations part 137. In any case of conflict, a provision of the aforementioned authorities takes precedence over any of these Rules.

(b) Each aerial application business shall have a licensed contractor. The contractor shall be responsible for the compliance of the business with the North Carolina Pesticide Law of 1971 and all regulations promulgated thereunder except where the responsibility is specifically designated to another person(s) by these Rules.

(c) All agricultural aircraft operations (pilot or contractor) shall keep a written record to be completed within 72 hours after each application. This requirement must be fulfilled sooner if requested by an employee of the Pesticide Section for the purposes of a pesticide incident investigation. The record shall show the following:

- (1) name of contractor;
  - (2) name and address of the person for whom the pesticide was applied;
  - (3) identification of farm or land sites treated with pesticide(s);
  - (4) name of crop which was treated;
  - (5) total number of acres treated;
  - (6) the year, month, day, and approximate time the pesticide was applied;
  - (7) the brand name of the pesticide(s) and EPA registration number;
  - (8) amount of formulated product or active material applied per acre (must specify);
  - (9) total gallons or pounds per acre of the final tank mix applied per acre;
  - (10) name of pilot;
  - (11) signature of person completing this record.
- (d) The pilot shall, prior to application, learn and confirm:
- (1) the boundaries and exact location of the target area(s),
  - (2) the identity of nontarget areas and safety hazards located on or adjacent to the target areas.



AGRICULTURE - FOOD AND DRUG PROTECTION DIVISION

(e) Spray and spreading equipment shall be thoroughly rinsed after each agricultural aircraft operation except when the next agricultural aircraft operation will be made using the same pesticide, or if another pesticide, one which by its manufacturer's recommendations is compatible with that previously in the equipment, and will not result in any adverse effects or illegal residues. Rinsing shall be conducted in an area where an environmental hazard will not be created by the drainage or disposal of waste materials and conducted with methods which will not create an environmental or human hazard.

(f) During application, the flow and mixture of the pesticide(s) shall be uniform. Pilots and contractors shall utilize equipment which will maintain a uniform mixture and flow during application.

(g) Pilots and contractors shall use and operate, in any agricultural aircraft operation, aircraft equipped with spray or spreading equipment suited, according to its manufacturer's recommendations for the pesticide(s) to be applied. All aerial spray or spreading equipment shall be free of leaks and shall have a positive shutoff system to prevent leaking and dissemination of pesticides on any nontarget areas over which the flight is made. Such equipment shall not allow spillage, dripping and backflow or create a hazard from vapors or drift.

(h) The loading area shall be kept reasonably free of pesticide contamination.

(i) No pesticide(s) shall be applied by an aerial applicator while any persons other than those assisting in the application are in the target area.

(j) The shape of the tank or hopper of the spray or spreading equipment shall be such as to allow complete drainage during flight and on ground.

(k) The contractor or pilot shall immediately notify the Secretary of the Board, or designated alternate, of any emergency or accidental release of pesticide(s) from the application or auxiliary equipment. They shall provide the following information:

- (1) the name of the pilot,
- (2) the contractor involved,
- (3) the name of the property owner or operator,
- (4) the location of the incident,
- (5) the name of the pesticide,
- (6) the estimated amount of pesticide involved,
- (7) the estimated size of the area that received the spill,
- (8) the description of what is located within 300 feet from the edge of the spill in all directions,
- (9) the number of humans or animals known to have been contaminated,
- (10) the weather conditions at the site of the emergency or accidental release of pesticide(s).

*History Note: Statutory Authority G.S. 143-458; 143-463; 143-466;*

*Eff. July 2, 1976;*

*Amended Eff. February 1, 1989; January 1, 1985; August 1, 1982; March 1, 1981.*

**.1003 DRIFT CONTROL**

No person shall apply a pesticide(s) aerially under such conditions that drift from pesticide(s) particles or vapors results in adverse effect. As a minimum, the following precautions shall be taken:

- (1) Fixed nozzles shall be spaced on the boom to afford a uniform spray pattern at the height the aircraft will be flown.
- (2) All pesticides applied aerially as liquids, in liquid carriers, or as dusts shall be released within 15 feet above the canopy of the target, except where obstructions in or adjacent to the target would endanger the safety of the pilot while applying pesticides at that altitude.
- (3) All pesticides applied aerially as dry granules or pellets shall be released within 40 feet above the canopy of the target, except where obstructions in or adjacent to the target would endanger the safety of the pilot while applying pesticides at that altitude.
- (4) All applications of the following liquid pesticide formulations shall be made using a D4 or larger disk with a 46 whirlplate with the discharge directed with the airstream or not more than 10 degrees below the horizontal, and operated at a maximum

---

**AGRICULTURE - FOOD AND DRUG PROTECTION DIVISION**

---

pressure of 40 pounds per square inch, or a system producing a droplet size range not smaller than the above system, except for rotary-wing aircraft flying at speeds of 60 mph or less, in which case the nozzles may be directed downward:

- (a) phenoxy herbicides,
  - (b) paraquat,
  - (c) picloram (Tordon),
  - (d) dicamba.
- (5) Restricted use pesticides other than those specified in (4) of this Rule shall be applied as follows:
- (a) use a D4 or larger disk with a 45 whirlplate with the discharge directed with the airstream or not more than 10 degrees below the horizontal, and operated at a maximum pressure of 40 pounds per square inch; or
  - (b) a system producing a droplet size range not smaller than the above system, except for rotary-wing aircraft flying at speeds of 60 mph or less, in which case the nozzles may be directed downward; or
  - (c) use a boom with outside nozzles placed no closer to the wingtips than 12-1/2 percent of the total wingspan distance. If the length of the boom of the spraying equipment exceeds the nozzle span, a bleeder line shall be provided from the end of the boom to the last nozzle on the boom.

*History Note:* Statutory Authority G.S. 143-458; 143-463;  
Eff. July 2, 1976;  
Amended Eff. January 1, 1985.

**.1004 HANDLING AND LOADING OF PESTICIDES**

(a) Pilots or employees handling or loading toxicity category I pesticides shall wear approved respirators. Filters and cartridges in respirators shall be changed according to the manufacturer's recommendation.

(b) Pilots or employees handling or loading toxicity category I pesticides shall wear freshly laundered protective clothing and shall bathe and change such clothing daily or sooner if the situation warrants.

(c) Pilots or employees handling or loading toxicity category I pesticides shall wear chemical-resistant gloves and boots or overshoes, in good condition.

(d) Aircraft cockpits shall be kept clean.

(e) If a toxicity category I pesticide contacts the skin of any person during any part of the agricultural aircraft operation, the person shall wash or be washed immediately, thoroughly with detergent and water and clothing replaced with clean clothing. Detergent and wateradequate for personal washing shall be available at the pesticide loading site. They must also be available at any pesticide handling site which is separated geographically from the loading site.

*History Note:* Statutory Authority G.S. 143-458; 143-463;  
Eff. July 2, 1976;  
Amended Eff. January 1, 1985.

**.1005 RESTRICTED AREAS**

(a) No pesticide shall be applied by aircraft within the limits of any congested area except when permission is granted under F.A.R.-137.

(b) No pesticide shall be deposited by aircraft within 300 feet of the premises of schools, hospitals, nursing homes, churches, or any building (other than a residence) which is used for business or social activities if either the premises or the building is occupied by people.

(c) No pesticide shall be deposited by aircraft on the right-of-way of a public road or within 25 feet of the road, whichever is the greater distance.

(d) No pesticide labeled toxic or harmful to aquatic life shall be deposited in or near any body of water in such a manner as to be hazardous to aquatic life unless such aquatic life is the intended target of the pesticide.

(e) No pesticide shall be deposited within 100 feet of any residence.

(f) No pesticide shall be deposited onto any nontarget area in such a manner that it is



AGRICULTURE - FOOD AND DRUG PROTECTION DIVISION

more likely than not that adverse effect will occur.

*History Note: Statutory Authority G.S. 143-458;*

*Eff. July 2, 1976;*

*Amended Eff. July 1, 1988; January 1, 1985; December 1, 1976.*

**.1006 EXEMPTIONS**

No person or procedure or spraying and spreading system for aerial application of pesticides shall be exempt from any of the provisions of this Section except under these conditions:

- (1) During an emergency proclaimed by the commissioner, specific aerial applicators may, on a temporary basis, be exempted from all, or from specific regulations by the commissioner.
- (2) The Pesticide Board may authorize exemptions:
  - (a) from specific regulations for specific aerial applications when deemed appropriate,
  - (b) from specific regulations for an aerial applicator applying pesticides while engaged in experimental work for or under the direct supervision of a public agency or while engaged in experimental work for a private individual or person.
- (3) Any state, federal or public agency or aerial applicator under contractual agreement with and under supervision of such an agency when conducting a pest control operation may be exempted from 2 NCAC 9L .1002(i), General Requirements, and 2 NCAC 9L .1005(b) through (e), Restricted Areas, provided that, at least 30 days prior to the proposed initiation of the subject operation they present to the Pesticide Section, a complete description of the operation which meets or exceeds the following standards:
  - (a) Project Description. The application shall include all of the following:
    - (i) explanation of why the project is needed;
    - (ii) identification of target pest or pests;
    - (iii) map showing treatment area;
    - (iv) total acreage to be treated;
    - (v) proposed dates of application (range).
  - (b) Description of the Pesticide. The application shall contain a description of the pesticide(s) proposed for use under the exemption. Such information shall include:
    - (i) a statement that the pesticide product(s) proposed for use carries current state and federal registration and are currently labeled for the proposed use. Include EPA registration number for each pesticide;
    - (ii) Material Safety Data Sheet (MSDS). Include an MSDS for each pesticide proposed for use;
    - (iii) a statement specifying the composition of the final spray mixture to be applied to the target area. Identify any diluent(s), adjuvant(s), or other materials to be used with the pesticide(s) in the final spray mixture.
  - (c) Aircraft Information. The description shall include the following:
    - (i) identification of type(s) of aircraft proposed for use (fixed wing, helicopter, etc.);
    - (ii) identification of equipment specifications.
  - (d) Environmental Evaluation. The description shall include the following:
    - (i) identify or map any hospitals, schools, nursing homes, watersheds, and any other sensitive areas in or near the proposed treatment area;
    - (ii) list any rare, threatened, or endangered species in the proposed treatment area and describe measures (if any) to lessen adverse environmental impacts to such species or their habitat from the proposed treatment(s);
    - (iii) describe alternative methods of pest control (options). A no treatment alternative should be included. Describe probable environmental consequences of each alternative;
    - (iv) describe measures (if any) to mitigate the adverse environmental impacts of the proposed project.
  - (e) Notification and Public Input Plan. The application shall contain the following:
    - (i) Preliminary Notification:
      - (A) For small projects (less than 50 acres or fewer than 20 landowners) individual notification (personal contact or mailings) may be used. This notification shall include the information in criteria (a) through (c);
      - (B) For larger projects, the news media (radio, TV, newspapers) may be used for preliminary notification. A public meeting may also be used as a preliminary

AGRICULTURE - FOOD AND DRUG PROTECTION DIVISION

- notification tool. This notification shall include the information in criteria (a) through (c);
- (ii) Input Plan. There should be a plan for allowing public input about the project prior to the final choice of the course of action to be taken;
  - (iii) Operational Notification. After a decision is made on the course of action to be taken on the project, the people affected by the project should be informed of the decision. On small projects this may be done on an individual basis. On larger projects the news media would be an appropriate avenue of notification;
  - (iv) A contact person and telephone number shall be listed in the public notice;
  - (v) Evacuation Plan. For persons concerned about the project because of health reasons, there should be a notification procedure so they may leave the treatment area while the project is underway.

The Pesticide Section shall either approve, disapprove, or refer to the North Carolina Pesticide Board all applications for exemption.

- (4) Any local health director or aerial applicator licensed under the subcategory of public health pest control, under supervision of such local health director when conducting a control operation for disease vectors or other pest of public health significance shall be exempted from 2 NCAC 9L .1002(i), General Requirements; .1003, Drift Control; and .1005(b) through (e), Restricted Areas, provided such local health director or his authorized designee notifies the secretary of the Board prior to initiation of subject operation and submits the following information:
  - (a) name of aerial applicator or contractor,
  - (b) location and general description of operation area(s),
  - (c) identity of target pest(s),
  - (d) brand name(s) and EPA registration number(s) of the pesticide(s) to be used,
  - (e) scheduled date(s) of application(s), and
  - (f) outline of nature of operation.

Approved pesticide(s) shall be applied in compliance with label requirements.

*History Note:* Statutory Authority G.S. 143-458; 143-461(1),(2),(5); 143-463;  
 Eff. July 2, 1976;  
 Amended Eff. October 1, 1988; January 1, 1985; August 1, 1982;  
 July 21, 1978.

**.1007 EMERGENCY EXEMPTION: PAMLICO COUNTY: MOSQUITOES**

*History Note:* Filed as an Emergency Regulation Eff. September 30, 1977, for a Period of 20 Days to Expire on October 20, 1977;  
 Statutory Authority G.S. 143-458;  
 Expired Eff. October 20, 1977.

**.1008 EMERGENCY EXEMPTION: BEAUFORT COUNTY: MIDGES**

*History Note:* Filed as an Emergency Regulation Eff. July 17, 1978, for a Period of 30 Days to Expire on August 16, 1978;  
 Statutory Authority G.S. 143-458; 143-461;  
 Expired Eff. August 16, 1978.

**.1009 NOTIFICATION OF APIARIES**

Any person who hires the services of an aerial applicator to apply a pesticide labeled as toxic to bees, shall notify, based on available listings of registered apiaries, the owner or operator of any registered apiary located within one-half mile of the target area not less than twenty-four hours nor more than ten days prior to the beginning of a single application or a seasonal spray schedule, giving the approximate time of day of application and type of pesticide to be used. Notification may be either oral or written. Notification for the purposes of this Paragraph is defined as follows:

- (1) written communication by:
  - (a) U.S. mail,



AGRICULTURE - FOOD AND DRUG PROTECTION DIVISION

- (b) Notification left at residence, or
- (c) Notification left at alternate as designated on the honeybee registration list.
- (2) oral communication by:
  - (a) telephone,
  - (b) personal communication, or
  - (c) verbal communication with an alternate as designated on the honeybee registration list.

The Pesticide Section will distribute new registrations of beekeepers and their alternates by U.S. mail on the first of each quarter (January 1, April 1, July 1, and October 1) to all farmers growing crops within one-half mile of the apiaries that are identified on the "Apiary Registration Form" of the Plant Industry Division. The list of revised registered apiaries will become effective on the fifth day of the first month in the quarter stated in this Rule. The registration of apiaries shall be effective for the calendar year that they are registered.

*History Note:* Statutory Authority G.S. 143-458; 143-463; 143-466;  
Eff. January 1, 1985.

**SECTION .1100 - PRIVATE PESTICIDE APPLICATOR CERTIFICATION****.1101 CERTIFICATION**

Any individual as defined under the definition of private pesticide applicator in Rule .1102 of this Section and who is not a licensed pesticide applicator as defined in G.S. 143-460(29) or a certified applicator as defined in G.S. 106-65.24(4) must be certified through completion of one of the certification options in Rule .1103 of this Section.

*History Note:* Statutory Authority G.S. 143-440;  
Eff. October 21, 1977;  
Amended Eff. August 1, 1987.

**.1102 DEFINITIONS**

(a) Certified applicator—any individual who is certified to use or supervise the use of any restricted use pesticide.

(b) Private pesticide applicator—a person who uses or supervises the use of any restricted use pesticide under the following conditions:

- (1) for the purpose of producing any agricultural commodity on property owned or rented by him or his employer, or
- (2) if applied without compensation other than trading of personal services between producers of agricultural commodities on the property of another person.

(c) Private pesticide applicator certification standards review—a comprehensive training session designed to advance a private pesticide applicator's practical knowledge in areas such as the pest problems and pest control practices associated with agricultural operations; proper storage, use, handling, and disposal of pesticides and their containers; labels and labeling information; local environmental situations that must be considered during application to avoid contamination; recognition of poisoning symptoms and procedures to follow in case of a pesticide accident; protective clothing, equipment, and other appropriate worker protection standards; appropriate federal and state pesticide laws and regulations and the applicator's related legal responsibility; current agricultural production-related pesticide technology; sources of advice and guidance necessary for the safe and proper use of each pesticide related to his/her certification; and other areas as deemed appropriate and necessary by the North Carolina Pesticide Board. These training sessions will be taught by extension pesticide training agents or other individuals approved by the Board.

(d) Continuing certification credit—one hour of continuing certification training. Continuing certification training must be approved by the Board. Such training may be offered during grower meetings, seminars, short courses, or other board-approved presentations taught by extension pesticide training agents, or other privately or publicly sponsored training organizations.

*History Note:* Statutory Authority G.S. 143-440;  
Eff. December 1, 1976;  
Amended Eff. November 1, 1988; July 1, 1987; February 5, 1978;  
April 20, 1977.

---

**AGRICULTURE - FOOD AND DRUG PROTECTION DIVISION**

---

**.1103 CERTIFICATION OPTIONS**

(a) Classroom training consisting of instruction approved by the Board on material such as contained in the USDA-EPA private applicator manual entitled "Apply Pesticides Correctly" and supplemental slide series with audio support, plus active participation in a question-answer session. These training sessions will be taught by extension pesticide training agents or other individuals approved by the Board. Such training will involve three or more hours of classroom training.

(b) Classroom training for participants with reading difficulties may be available in the form of a specially designed training program approved by the Board incorporating the information offered in (a) of this Rule. Emphasis will be placed on the importance of the participant having someone available who can relay to him all label information. These training sessions will be taught by extension pesticide training agents or other individuals approved by the Board. Such training will involve three or more hours of classroom training.

(c) Programmed instruction utilizing the EPA or equivalent type of workbook approved by the Board which relates small amounts of information to the participant after which trainee would answer a written question(s). Upon completion of the programmed instruction booklet, the participant must turn in the manual which will be randomly reviewed for completeness.

(d) Curriculum for high school students may be available in the form of classroom instruction utilizing material developed by a private firm under an EPA grant and approved by the Board. The agricultural education section of the State Department of Public Instruction has worked with firms in developing the material. Curriculums such as this may be taught by the vocational agriculture teachers and other groups approved by the Board. Qualified students passing such courses will be certified.

(e) A written examination may be taken in lieu of the other options (a) to (d) of this Rule. Questions for the examination will be taken from the training material used under other options. If the participant scores less than 70 on the examination, he must participate in one of the other options.

*History Note:* Statutory Authority G.S. 143-440;  
Eff. December 1, 1976;  
Amended Eff. July 1, 1987; February 5, 1978.

**.1104 SINGLE PURCHASE EMERGENCY CERTIFICATION PERMIT**

(a) For emergency certification of any applicant who has not previously been certified and did not anticipate need for a restricted use pesticide, a 10-day permit can be issued by his resident county agricultural extension service pesticide coordinator authorizing the purchase and use of one restricted use pesticide for one application to a crop or site. Prior to issuance of the permit the resident county agricultural extension service pesticide coordinator shall:

(1) provide the applicant with a training manual and information relative to obtaining full private pesticide applicator certification, and

(2) discuss with the applicant proper use of the restricted use pesticide.

(b) If the individual requires further use of restricted use pesticides, he must complete one of the certification options explained in Rule .1103 of this Section.

(c) The agricultural extension service pesticide coordinator shall keep a copy of the permit provided by the North Carolina Department of Agriculture which contains the following information:

- (1) name and address of the applicant,
- (2) name and amount of restricted use pesticide,
- (3) crop or site to be treated, and
- (4) date the permit was issued.

Copies of the permits will be available for review on an as-needed basis by the North Carolina Department of Agriculture.

*History Note:* Statutory Authority G.S. 143-440;  
Eff. December 1, 1976;  
Amended Eff. August 26, 1977.

**.1105 APPLICATIONS UNDER SUPERVISION OF CERTIFIED APPLICATOR**



AGRICULTURE - FOOD AND DRUG PROTECTION DIVISION

(a) "Under the direct supervision of" shall include the receipt by the non-certified applicator of verifiable specific and individual job or work assignments and instructions from the certified applicator under whose direct supervision and control the non-certified applicator is functioning prior to the use and application of a restricted use pesticide. In other situations as required by the label, the actual physical presence of a certified applicator may be required when application is made by a non-certified applicator.

(b) Application of restricted use pesticide may be made by non-certified applicators provided such applicator is a competent person(s) acting under the direct supervision of a certified applicator whose certification permits such application.

(c) The certified applicator acting in a supervisory role shall be available to the non-certified applicator in the event he is needed. It shall be the responsibility of the certified applicator to keep the non-certified applicator fully aware of all directions for use and cautions necessary for safe use and application of any restricted use pesticide he may be directed to apply.

(d) All non-certified applicators applying any restricted use pesticide under the direct supervision of a certified applicator shall have available at the application site or at the loading and mixing site, if different from the application site, the following:

- (1) detailed written or printed directions for applying the restricted use pesticide (pesticide product label may suffice);
- (2) detailed written or printed instructions describing procedures to be followed in order to prevent injury to the applicator, other persons and/or unreasonable adverse effects on the environment (pesticide product label may suffice); and
- (3) detailed instructions for contacting the certified applicator under whose supervision the non-certified applicator is working (i.e., name, location, telephone number, radio contact, etc.); Such instructions, when followed, shall result in direct communication with the certified applicator.

*History Note: Statutory Authority G.S. 143-440;  
Eff. December 1, 1976;  
Amended Eff. February 5, 1978.*

**.1106 RECERTIFICATION**

(a) Private pesticide applicators may be required to be recertified through attendance at training sessions or other options approved by the Pesticide Board and carried out by extension pesticide training agents, vocational agriculture pesticide training personnel or other groups approved by the Board when determined necessary in the following instances:

- (1) to ensure that certified applicators continue to meet the requirements of changing technology and to ensure a continuing level of competency and ability to use pesticides safely and properly, or
- (2) when it is determined through a hearing as provided by the pesticide law that a private pesticide applicator is guilty of violating the pesticide law or regulations of the Board.

(b) Updating information on pesticide usage will be provided through the extension service, vocational agriculture education personnel, N.C. Department of Agriculture, and other groups using mass media, direct mail, and group meetings to ensure adequate continued competency.

*History Note: Statutory Authority G.S. 143-440;  
Eff. December 1, 1976.*

**.1107 AGE LIMITATIONS**

Individuals who wish to be certified as private pesticide applicators must be 16 years old prior to participating in a certification option or being issued a single purchase permit under the emergency certification procedure; however, in hardship cases individuals below the age of 16 may be licensed by the Board on an individual basis when they demonstrate to the Board by written, or written and oral examination their qualifications as a private pesticide applicator.

*History Note: Statutory Authority G.S. 143-440;  
Eff. December 1, 1976.*

---

**AGRICULTURE - FOOD AND DRUG PROTECTION DIVISION**

---

**.1108 TERM OF CERTIFICATION**

(a) The term of certification shall be for a period of three years, except as stated in Rule .1110(a) of this Section.

(b) In no event will the certification of a private pesticide applicator be continued for more than three years unless the individual has completed Continuing Certification requirements in Rule .1109 of this Section.

*History Note: Statutory Authority G.S. 143-440;  
Eff. July 1, 1987.*

**.1109 CONTINUING CERTIFICATION**

Certified private pesticide applicators shall be required to complete two continuing certification credit hours of private pesticide applicator certification standards review.

*History Note: Statutory Authority G.S. 143-440;  
Eff. July 1, 1987.*

**.1110 EXPIRATION OF CERTIFICATION**

(a) For certifications issued after June 30, 1987, the certification period shall expire on June 30th of the third year after issuance. For certifications issued prior to June 30, 1987, the department shall establish a system of staggered expiration dates so that approximately one-third of the certifications shall expire on June 30, 1988, one-third on June 30, 1989, and one-third on June 30, 1990.

(b) A certified private pesticide applicator who has not completed Continuing Certification requirements in Rule .1109 of this Section prior to September 30th of the year of certification expiration shall be required to pass a comprehensive examination administered by the North Carolina Department of Agriculture personnel, in order to renew his/her certification.

(c) No individual will be allowed to carry over any continuing certification credits from one recertification period to another.

*History Note: Statutory Authority G.S. 143-440;  
Eff. July 1, 1987.*

**.1111 CERTIFICATION/RECERTIFICATION FEE**

A nonrefundable fee of six dollars (\$6.00) shall be required for private pesticide applicator certification or recertification.

*History Note: Filed as a Temporary Adoption Eff. October 1, 1987, for a Period of 180  
Days to Expire on  
March 29, 1988;  
Statutory Authority G.S. 143-440(b);  
Eff. March 1, 1988.*

**SECTION .1200 - ARSENIC TRIOXIDE****.1201 RESTRICTIONS ON USE AND STORAGE**

All pesticide formulations containing the active ingredient arsenic trioxide shall not be used or stored inside or in the immediate vicinity of any building used as a human dwelling.

*History Note: Statutory Authority G.S. 143-440(b); 143-441;  
Eff. April 21, 1977.*

**.1202 PESTICIDE DEALER AND PURCHASER RESPONSIBILITY**

The pesticide dealer shall secure the signature of the purchaser attesting to the fact that such purchaser has knowledge of the use restrictions on arsenic trioxide contained herein; provided, however, that any licensed pesticide applicator under the authority of G.S. 143-452 or G.S. 106-65.25 may use such formulations containing arsenic trioxide in or around human dwellings provided such use is performed in a manner consistent with the product label and limits access to the pesticide by children.



**AGRICULTURE - FOOD AND DRUG PROTECTION DIVISION**

---

*History Note:* Statutory Authority G.S. 143-440(b); 143-441; 143-466;  
Eff. April 21, 1977;  
Amended Eff. November 1, 1988.

**.1203 EXEMPTION OF LICENSED PESTICIDE APPLICATOR**

**SECTION .1300 - AVAILABILITY OF RESTRICTED USE PESTICIDES**

**.1301 DEFINITIONS**

(a) The term "end use" as used in this Section means those activities attendant to the application of a pesticide to a site.

(b) All other specific words or terms used in this Regulation shall have the same definition or meaning as shown in the North Carolina Pesticide Law of 1971, G.S. 143-460 and regulations thereunder, and the North Carolina Structural Pest Control Law, G.S. 106-65.24 and regulations thereunder.

*History Note:* Statutory Authority G.S. 143-440; 143-463;  
Eff. August 26, 1977;  
Amended Eff. November 1, 1988; February 5, 1978.

**.1302 GENERAL REQUIREMENTS**

It shall be unlawful for any person to make available for use to any person other than a certified private applicator, licensed pesticide applicator, certified structural pest control applicator or structural pest control licensee, any restricted use pesticide.

*History Note:* Statutory Authority G.S. 143-440; 143-463;  
Eff. August 26, 1977;  
Amended Eff. February 5, 1978.

**.1303 EXEMPTIONS**

(a) Restricted use pesticides may be made available to an employee under the supervision of a certified private or licensed pesticide applicator, certified structural pest control applicator, or structural pest control licensee provided the employee is acting under the direction and supervision of said applicators and provided further that said employee is 16 years of age or older.

(b) This exemption applies to restricted use pesticides in channels of trade prior to making them available for end use.

(c) Prior to making available restricted use pesticides to an employee under the supervision of a certified private applicator, licensed pesticide applicator, certified structural pest control applicator, or structural pest control licensee, all persons shall require the employee to sign his name, list the certification number of employer under whose direction and supervision the employee is acting, and record the name of the pesticide(s) obtained and the date of purchase. Such information shall be available for routine inspection by the North Carolina Pesticide Board or its agent.

*History Note:* Statutory Authority G.S. 143-440; 143-463; 143-466;  
Eff. August 26, 1977;  
Amended Eff. November 1, 1988; February 5, 1978.

**.1304 RESTRICTIONS**

*History Note:* Statutory Authority G.S. 143-440; 143-463; 143-466;  
Eff. August 26, 1977;  
Amended Eff. February 5, 1978;  
Repealed Eff. November 1, 1988.

**SECTION .1400 - GROUND APPLICATION OF PESTICIDES**

**.1401 DEFINITIONS**

---

**AGRICULTURE - FOOD AND DRUG PROTECTION DIVISION**

---

All specific words or terms used in this Section other than those defined below shall have the same definitions as shown in the North Carolina Pesticide Law of 1971, G.S. 143-460:

- (1) **Adverse Effect.** Personal injury, damage to personal property, damage to real property, damage to the environment or any combination of these;
- (2) **Drift.** The airborne movement of pesticides resulting from the application of pesticides such as to carry the pesticides beyond the target area;
- (3) **Environment.** Water, air, land, and all plants and man and other animals living therein and the interrelationships which exist among these;
- (4) **Identification of Farm.** For record keeping purposes, licensed pesticide applicators shall use ASCS farm number or common name of farm or address of farm or other practical means of identification of farm;
- (5) **Identification of Site.** For record keeping purposes, federal, state or public agencies or licensed pesticide applicators under contractual agreement with or under supervision of such an agency shall use statewide or name(s) of county(s) or name(s) of city(s) or name(s) of body(s) of water or other practical means of identification of site. All other licensed pesticide applicators shall use name of specific right-of-way or name and address of golf course or specific address of site or other more definitive practical means of identification of site;
- (6) **Object.** A physical or living thing occurring on a site; e.g., a structure, animal, tree, ornamental plant, or material.

*History Note:* Statutory Authority G.S. 143-458; 143-463; 143-466(a);  
Eff. October 21, 1977;  
Amended Eff. November 1, 1988; August 1, 1985; February 5, 1978.

**.1402 RECORD KEEPING REQUIREMENTS**

All licensed pesticide applicators, as defined in G.S. 143-460 which includes public operators, utilizing ground equipment shall keep for three years and make available to the commissioner for like period records of all applications of restricted use pesticides showing the following:

- (1) name of licensed pesticide applicator or licensed public operator;
- (2) name and address of the person for whom the pesticide was applied;
- (3) identification of farm or site(s) treated with pesticide(s);
- (4) name of crop, commodity, or object(s) which was treated with pesticide(s);
- (5) approximate number of acres or size or number of other object(s) treated;
- (6) date(s) pesticide(s) was applied;
- (7) the brand name of the pesticide(s) and EPA registration number(s);
- (8) amount (volume or weight) of pesticide formulation(s) or active ingredient(s) applied per unit of measure;
- (9) name(s) of person(s) applying pesticide(s).

*History Note:* Statutory Authority G.S. 143-458; 143-463; 143-466(a);  
Eff. October 21, 1977.

**.1403 EXEMPTIONS TO 2 NCAC 9L .1402**

*History Note:* Statutory Authority G.S. 143-458; 143-463; 143-466(a);  
Eff. October 21, 1977;  
Amended Eff. August 1, 1985; August 1, 1982;  
Repealed Eff. November 1, 1988.

**.1404 DRIFT CONTROL**

No person shall apply a pesticide(s) under such conditions that drift from pesticide(s) particles or vapors results in adverse effect.

*History Note:* Statutory Authority G.S. 143-458; 143-463;  
Eff. August 1, 1985.

**.1405 EXEMPTIONS TO 2 NCAC 9L .1404**

*History Note:* Statutory Authority G.S. 143-458; 143-463;



AGRICULTURE - FOOD AND DRUG PROTECTION DIVISION

---

*Eff. August 1, 1985;*

*Repealed Eff. November 1, 1988.*

**SECTION .1500 - EXEMPTED PESTICIDES**

**.1501 DEFINITIONS**

**.1502 RESTRICTED INSECTICIDES: COTTON BOLLWORM/TOBACCO BUDWORM**

*History Note: Statutory Authority G.S. 143-437; 143-440; 143-442; 143-450; 143-463;  
Eff. June 30, 1978;*

*Repealed Eff. January 1, 1979.*

**SECTION .1600 - PESTICIDE EMERGENCY PLAN**

**.1601 GENERAL**

**.1602 PROCEDURE**

*History Note: Statutory Authority G.S. 143-436; 143-437; 143-441;  
Eff. September 2, 1979;*

*Repealed Eff. November 1, 1988.*

**SECTION .1700 - ULTRA LOW VOLUME (ULV) AND LOW VOLUME (LV)  
APPLICATION OF PESTICIDES**

**.1701 DEFINITIONS**

**.1702 ULTRA LOW VOLUME (ULV) APPLICATION OF PESTICIDES**

**.1703 LOW VOLUME (LV) APPLICATION OF PESTICIDES**

**.1704 CONTENTS OF THE RECOMMENDATION**

**.1705 NOTIFICATION REQUIREMENTS**

**.1706 LIMITATIONS**

**.1707 REVOCATION OF RECOMMENDATION**

*History Note: Statutory Authority G.S. 143-458(a);  
Eff. January 1, 1982;*

*Amended Eff. August 1, 1982;*

*Repealed Eff. November 1, 1988.*

**SECTION .1800 - WORKER PROTECTION STANDARDS FOR AGRICULTURAL  
PESTICIDES**

**.1801 DEFINITIONS**

**.1802 WARNINGS**

**.1803 REENTRY TIMES**

**.1804 LABELS AND EXEMPTIONS**

*History Note: Statutory Authority G.S. 143-458(a);  
Eff. November 1, 1982;*

*Amended Eff. January 1, 1983;*

*Repealed Eff. July 1, 1993.*

**.1805 ADOPTION BY REFERENCE**

The North Carolina Pesticide Board hereby adopts by reference, including subsequent amendments, Part 170 of Title 40 of the Code of Federal Regulations, entitled "Worker Protection Standard." Copies of this material may be obtained from the U.S. Government Printing Office, Washington, D.C. 20402, at a cost determined by that office.

*History Note: Statutory Authority G.S. 143-458(a);  
Eff. July 1, 1993.*

**PART 170 - WORKER PROTECTION STANDARD**

---

*AGRICULTURE - FOOD AND DRUG PROTECTION DIVISION*

---

**Subpart A - General Provisions**

## Sec.

- 170.1 Scope and purpose.
- 170.3 Definitions.
- 170.5 Effective date and compliance dates.
- 170.7 General duties and prohibited actions.
- 170.9 Violations of this part.

**Subpart B - Standard for Workers**

## Sec.

- 170.102 Applicability of this Subpart.
- 170.103 Exceptions.
- 170.104 Exemptions.
- 170.110 Restrictions associated with pesticide applications.
- 170.112 Entry restrictions.
- 170.120 Notice of applications.
- 170.122 Providing specific information about applications.
- 170.124 Notice of applications to handler employers.
- 170.130 Pesticide safety training for workers.
- 170.135 Posted pesticide safety information.
- 170.150 Decontamination.
- 170.160 Emergency assistance.

**Subpart C - Standard for Pesticide Handlers**

## Sec.

- 170.202 Applicability of this subpart.
- 170.203 Exceptions.
- 170.204 Exemptions.
- 170.210 Restrictions during applications.
- 170.222 Providing specific information about applications.
- 170.224 Notice of applications to agricultural employers.
- 170.230 Pesticide safety training for handlers.
- 170.232 Knowledge of labeling and site-specific information.
- 170.234 Safe operation of equipment.
- 170.235 Posted pesticide safety information.
- 170.240 Personal protective equipment.
- 170.250 Decontamination.
- 170.260 Emergency assistance.

*Authority: 7 U.S.C. 136w.*

*Source: 57 FR 38151, Aug. 21, 1992, unless otherwise noted.*

**Subpart A - General Provisions****§ 170.1 Scope and purpose.**

This part contains a standard designed to reduce the risks of illness or injury resulting from workers' and handlers' occupational exposures to pesticides used in the production of agricultural plants on farms or in nurseries, greenhouses, and forests and also from the accidental exposure of workers and other persons to such pesticides. It requires workplace practices designed to reduce or eliminate exposure to pesticides and establishes procedures for responding to exposure-related emergencies.

**§ 170.3 Definitions.**

Terms used in this part have the same meanings they have in the Federal Insecticide,



*AGRICULTURE - FOOD AND DRUG PROTECTION DIVISION*

---

Fungicide, and Rodenticide Act, as amended. In addition, the following terms, when used in this part, shall have the following meanings:

**Agricultural employer** means any person who hires or contracts for the services of workers, for any type of compensation, to perform activities related to the production of agricultural plants, or any person who is an owner of or is responsible for the management or condition of an agricultural establishment that uses such workers.

**Agricultural establishment** means any farm, forest, nursery, or greenhouse.

**Agricultural plant** means any plant grown or maintained for commercial or research purposes and includes, but is not limited to, food, feed, and fiber plants; trees; turfgrass; flowers, shrubs; ornamentals; and seedlings.

**Chemigation** means the application of pesticides through irrigation systems.

**Commercial pesticide handling establishment** means any establishment, other than an agricultural establishment, that:

- (1) Employs any person, including a self-employed person, to apply on an agricultural establishment, pesticides used in the production of agricultural plants.
- (2) Employs any person, including a self-employed person, to perform on an agricultural establishment, tasks as a crop advisor.

**Crop advisor** means any person who is assessing pest numbers or damage, pesticide distribution, or the status or requirements of agricultural plants. The term does not include any person who is performing hand labor tasks.

**Early entry** means entry by a worker into a treated area on the agricultural establishment after a pesticide application is complete, but before any restricted-entry interval for the pesticide has expired.

**Farm** means any operation, other than a nursery or forest, engaged in the outdoor production of agricultural plants.

**Forest** means any operation engaged in the outdoor production of any agricultural plant to produce wood fiber or timber products.

**Fumigant** means any pesticide product that is a vapor or gas, or forms a vapor or gas on application, and whose method of pesticidal action is through the gaseous state.

**Greenhouse** means any operation engaged in the production of agricultural plants inside any structure or space that is enclosed with nonporous covering and that is of sufficient size to permit worker entry. This term includes, but is not limited to, polyhouses, mushroom houses, rhubarb houses, and similar structures. It does not include such structures as malls, atriums, conservatories, arboretums, or office buildings where agricultural plants are present primarily for aesthetic or climatic modification.

**Hand labor** means any agricultural activity performed by hand or with hand tools that causes a worker to have substantial contact with surfaces (such as plants, plant parts, or soil) that may contain pesticide residues. These activities include, but are not limited to, harvesting, detasseling, thinning, weeding, topping, planting, sucker removal, pruning, disbudding, roguing, and packing produce into containers in the field. Hand labor does not include operating, moving, or repairing irrigation or watering equipment or performing the tasks of crop advisors.

**Handler** means any person, including a self-employed person:

- (1) Who is employed for any type of compensation by an agricultural establishment or commercial pesticide handling establishment to which subpart C of this part applies and who is:
  - (i) Mixing, loading, transferring, or applying pesticides.
  - (ii) Disposing of pesticides or pesticide containers.
  - (iii) Handling opened containers of pesticides.
  - (iv) Acting as a flagger.
  - (v) Cleaning, adjusting, handling, or repairing the parts of mixing, loading, or application equipment that may contain pesticide residues.
  - (vi) Assisting with the application of pesticides.
  - (vii) Entering a greenhouse or other enclosed area after the application and before the inhalation exposure level listed in the labeling has been reached or one of the ventilation criteria established by this part (§170.110(c)(3)) or in the labeling has been met:
    - (A) To operate ventilation equipment.
    - (B) To adjust or remove coverings used in fumigation.

AGRICULTURE - FOOD AND DRUG PROTECTION DIVISION

- (viii) (C) To monitor air levels.  
Entering a treated area outdoors after application of any soil fumigant to adjust or remove soil coverings such as tarpaulins.
- (ix) Performing tasks as a crop advisor:
  - (A) During any pesticide application.
  - (B) Before the inhalation exposure level listed in the labeling has been reached or one of the ventilation criteria established by this part (§ 170.110(c)(3)) or in the labeling has been met.
  - (C) During any restricted-entry interval.
- (2) The term does not include any person who is only handling pesticide containers that have been emptied or cleaned according to pesticide product labeling instructions or, in the absence of such instructions, have been subjected to triple-rinsing or its equivalent.

**Handler employer** means any person who is self-employed as a handler or who employs any handler, for any type of compensation.

**Immediate family** includes only spouse, children, stepchildren, foster children, parents, stepparents, foster parents, brothers, and sisters.

**Nursery** means any operation engaged in the outdoor production of any agricultural plant to produce cut flowers and ferns or plants that will be used in their entirety in another location. Such plants include, but are not limited to, flowering and foliage plants or trees; tree seedlings; live Christmas trees; vegetable, fruit, and ornamental transplants; and turfgrass produced for sod.

**Owner** means any person who has a present possessory interest (fee, leasehold, rental, or other) in an agricultural establishment covered by this part. A person who has both leased such agricultural establishment to another person and granted that same person the right and full authority to manage and govern the use of such agricultural establishment is not an owner for purposes of this part.

**Restricted-entry interval** means the time after the end of a pesticide application during which entry into the treated area is restricted.

**Treated area** means any area to which a pesticide is being directed or has been directed.

**Worker** means any person, including a self-employed person, who is employed for any type of compensation and who is performing activities relating to the production of agricultural plants on an agricultural establishment to which subpart B of this part applies. While persons employed by a commercial pesticide handling establishment are performing tasks as crop advisors, they are not workers covered by the requirements of subpart B of this part.

#### § 170.5 Effective date and compliance dates.

- (a) **Effective date.** The effective date for this part, including § 170.112(e), shall be October 20, 1992.
- (b) **Accelerated provisions.** The compliance date shall be April 21, 1993, for:
  - (1) Section 170.112(a) through(c)(3);
  - (2) Section 170.112(d)(1) through(d)(2)(ii);
  - (3) The requirement of § 170.112(c)(3) as referenced in § 170.112(d)(2)(iii);
  - (4) The requirement of § 170.112(c)(3) as referenced in § 170.112(e)(5);
  - (5) Section 170.120(a)(3); and
  - (6) Section 170.120(b)(3).
- (c) **All other provisions.** The compliance date for all other provisions of this part shall be April 15, 1994.

#### § 170.7 General duties and prohibited actions.

- (a) **General duties.** The agricultural employer or the handler employer, as appropriate shall:
  - (1) Assure that each worker subject to subpart B of this part or each handler subject



*AGRICULTURE - FOOD AND DRUG PROTECTION DIVISION*

---

- to subpart C of this part receives the protections required by this part.
- (2) Assure that any pesticide to which subpart C of this part applies is used in a manner consistent with the labeling of the pesticide, including the requirements of this part.
  - (3) Provide, to each person who supervises any worker or handler, information and directions sufficient to assure that each worker or handler receives the protections required by this part. Such information and directions shall specify which persons are responsible for actions required to comply with this part.
  - (4) Require each person who supervises any worker or handler to assure compliance by the worker or handler with the provisions of this part and to assure that the worker or handler receives the protections required by this part.
- (b) **Prohibited actions.** The agricultural employer or the handler employer shall not take any retaliatory action for attempts to comply with this part or any action having the effect of preventing or discouraging any worker or handler from complying or attempting to comply with any requirement of this part.

**§ 170.9 Violations of this part.**

- (a) Under the Federal Insecticide, Fungicide, and Rodenticide Act (7 U.S.C. 136 *et seq.*) (FIFRA) section 12(a)(2)(G) it is unlawful for any person "to use any registered pesticide in a manner inconsistent with its labeling." When this part is referenced on a label, users must comply with all of its requirements except those that are inconsistent with product-specific instructions on the labeling. For the purposes of this part, EPA interprets the term "use" to include:
- (1) Preapplication activities, including, but not limited to:
    - (i) Arranging for the application of the pesticide;
    - (ii) Mixing and loading the pesticide; and
    - (iii) Making necessary preparations for the application of the pesticide, including responsibilities related to worker notification, training of handlers, decontamination, use and care of personal protective equipment, emergency information, and heat stress management.
  - (2) Application of the pesticide.
  - (3) Post-application activities necessary to reduce the risks of illness and injury resulting from handlers' and workers' occupational exposures to pesticide residues during the restricted-entry interval plus 30 days. These activities include, but are not limited to, responsibilities related to worker training, notification, and decontamination.
  - (4) Other pesticide-related activities, including, but not limited to, providing emergency assistance, transporting or storing pesticides that have been opened, and disposing of excess pesticides, spray mix, equipment wash waters, pesticide containers, and other pesticide-containing materials.
- (b) A person who has a duty under this part, as referenced on the pesticide product label, and who fails to perform that duty, violates FIFRA section 12(a)(2)(G) and is subject to a civil penalty under section 14. A person who knowingly violates section 12(a)(2)(G) is subject to section 14 criminal sanctions.
- (c) FIFRA section 14(b)(4) provides that a person is liable for a penalty under FIFRA if another person employed by or acting for that person violates any provision of FIFRA. The term "acting for" includes both employment and contractual relationships.
- (d) The requirements of this part, including the decontamination requirements, shall not, for the purposes of section 653(b)(1) of Title 29 of the U.S. Code, be deemed to be the exercise of statutory authority to prescribe or enforce standards or regulations affecting the general sanitary hazards addressed by the OSHA Field Sanitation Standard, 29 CFR 1928.110, or other agricultural, nonpesticide hazards.

**Subpart B - Standard for Workers****§ 170.102 Applicability of this subpart.**

Except as provided by §§170.103 and 170.104, this subpart applies when any pesticide product is used on an agricultural establishment in the production of agricultural plants.

AGRICULTURE - FOOD AND DRUG PROTECTION DIVISION

[60 FR 21952, May 3, 1995]

**§ 170.103 Exceptions.**

**Exceptions.** This subpart does not apply when any pesticide is applied on an agricultural establishment in the following circumstances:

- (a) For mosquito abatement, Mediterranean fruit fly eradication, or similar wide-area public pest control programs sponsored by governmental entities;
- (b) On livestock or other animals, or in or about animal premises;
- (c) On plants grown for other than commercial or research purposes, which may include plants in habitations, home fruit and vegetable gardens, and home greenhouses;
- (d) On plants that are in ornamental gardens, parks, and public or private lawns and grounds that are intended only for aesthetic purposes or climatic modification;
- (e) By injection directly into agricultural plants. Direct injection does not include "hack and squirt," "frill and spray," chemigation, soil-incorporation, or soil-injection;
- (f) In a manner not directly related to the production of agricultural plants, including, but not limited to, structural pest control, control of vegetation along rights-of-way and in other noncrop areas, and pasture and rangeland use;
- (g) For control of vertebrate pests;
- (h) As attractants or repellents in traps;
- (i) On the harvested portions of agricultural plants or on harvested timber; and
- (j) For research uses of unregistered pesticides.

[57 FR 38151, Aug 21, 1992. Redesignated at 60 FR 21952, May 3, 1995]

**§170.104 Exemptions.**

The workers listed in this section are exempt from the specified provisions of this subpart.

**(a) Owners of agricultural establishments.**

- (1) The owner of an agricultural establishment is not required to provide himself or members of immediate family who are performing tasks related to the production of agricultural plants on their own agricultural establishment the protections of :
  - (i) Section 170.112(c)(5) through(9).
  - (ii) Section 170.112(c)(5) through(9) as a reference in §§ 170.112(d)(2)(iii) and 170.112(e).
  - (iii) Section 170.120.
  - (iv) Section 170.122.
  - (v) Section 170.130.
  - (vi) Section 170.135.
  - (vii) Section 170.150.
  - (viii) Section 170.160.
- (2) The owner of the agricultural establishment must provide the protections listed in the paragraph(a)(1)(i) through(viii) of this section to other workers and other persons who are not members of his immediate family.

**(b) Crop advisors.**

- (1) Provided that the conditions of paragraph(b)(2) of this section are met, a person who is certified or licensed as a crop advisor by a program acknowledgment as appropriate in writing by EPA or a state or Tribal lead agency for pesticide enforcement and persons performing crop advising task under such qualified crop advisor's direct supervision, are exempt from the provision of:
  - (i) Section 170.150.
  - (ii) Section 170.160.

A person is under the direct supervision of the crop advisor when the crop advisor exerts the supervisory control set out in paragraphs(b)(2)(iii) and(iv) of this section. Direct supervision does not require that the crop advisor be physically present at all times, but the crop advisor must be readily accessible to the employees at all times.
- (2) Conditions of the exemption.



*AGRICULTURE - FOOD AND DRUG PROTECTION DIVISION*

---

- (i) The certification or licensing program requires pesticide safety training that includes, at least, all the information in § 170.230(c)(4).
  - (ii) Applies only when performing crop advising tasks in the treated area.
  - (iii) The crop advisor must make specific determination regarding the appropriate PPE, appropriate decontamination supplies, and how to conduct the task safely. The crop advisor must convey this information to each person under his direct supervision in a language that the person understands.
  - (iv) Before entering a treated area, the certified licensed crop advisor must inform, through an established practice of communication, each person under his direct supervision of the pesticide product and active ingredient(s) applied, method of application, time of application, the restricted entry interval, which tasks to undertake, and how to contact the crop advisor.
- (c) ***Grace period for persons performing crop advisor tasks who are not certified or licensed.***
- (1) Provided that the conditions of paragraph(c)(2) of this section are met, a person who is neither certified nor licensed as a crop advisor and any person performing crop advising tasks under his direct supervision is exempt until May 1, 1996, from the requirements of:
    - (i) Section 170.130.
    - (ii) Section 170.150.
    - (iii) Section 170.160.
  - (2) Conditions of exemption.
    - (i) Applies only when the persons are performing crop advising task in the treated area.
    - (ii) The crop advisor must make specific determinations regarding the appropriate P.E., appropriate decontamination supplies, and how to conduct the task safely. The crop advisor must convey this information to each person under his direct supervision in a language that the person understands.
    - (iii) Before entering a treated area, the crop advisor must inform, through an established practice of communication, each person under his direct supervision of the active ingredient, method of application, time of application, the restricted entry interval, which task to undertake, and how to contact the crop advisor.

[60 FR 21952, May 3, 1995]

**§ 170.110 Restrictions associated with pesticide applications.**

- (a) **Farms and forests.** During the application of any pesticide on a farm or in a forest, the agricultural employer shall not allow or direct any person, other than an appropriately trained and equipped handler, to enter or to remain in the treated area.
- (b) **Nurseries.** In a nursery, during any pesticide application described in column A of Table 1 of this paragraph, the agricultural employer shall not allow or direct any person, other than an appropriately trained and equipped handler, to enter or to remain in the area specified in column B of Table 1 of this paragraph. After the application is completed, until the end of any restricted-entry interval, the entry-restricted area is the treated area.

## AGRICULTURE - FOOD AND DRUG PROTECTION DIVISION

**Table 1. — Entry-Restricted Areas in Nurseries During Pesticide Applications**

A. During Application of a Pesticide:	B. Workers are Prohibited in:
(1) (a) Applied: <ul style="list-style-type: none"> <li>(i) Aerially or</li> <li>(ii) In an upward direction, or</li> <li>(iii) Using a spray pressure greater than 150 psi, or</li> </ul> (b) Applied as a: <ul style="list-style-type: none"> <li>(i) Fumigant, or</li> <li>(ii) Smoke, or</li> <li>(iii) Mist, or</li> <li>(iv) Fog, or</li> <li>(v) Aerosol.</li> </ul>	Treated area plus 100 feet in all directions on the nursery.
(2) (a) Applied downward using: <ul style="list-style-type: none"> <li>(i) A height of greater than 12 inches from the planting medium, or</li> <li>(ii) A fine spray, or</li> <li>(iii) A spray pressure greater than 40 psi and less than 150 psi.</li> </ul> (b) Not as in 1 or 2(a) above but for which a respiratory protection device is required for application by the product labeling.	Treated area plus 25 feet in all directions on the nursery.
(3) Applied otherwise.	Treated area.

**(c) Greenhouses.**

- (1) When a pesticide application described in column A of Table 2 under paragraph (c)(4) of this section takes place in a greenhouse, the agricultural employer shall not allow or direct any person, other than an appropriately trained and equipped handler, to enter or to remain in the area specified in column B of Table 2 until the time specified in column C of Table 2 has expired.
- (2) After the time specified in column C of Table 2 under paragraph(c)(4) of this section has expired, until the expiration of any restricted-entry interval, the agricultural employer shall not allow or direct any worker to enter or to remain in the treated area as specified in column D of Table 2 under paragraph(c)(4) of this section, except as provided in § 170.112.
- (3) When column C of Table 2 under paragraph(c)(4) of this section specifies that ventilation criteria must be met, ventilation shall continue until the air concentration is measured to be equal to or less than the inhalation exposure level the labeling requires to be achieved. If no inhalation exposure level is listed on the labeling, ventilation shall continue until after:
  - (i) Ten air exchanges are completed; or
  - (ii) Two hours of ventilation using fans or other mechanical ventilating systems; or
  - (iii) Four hours of ventilation using vents, windows or other passive ventilation; or
  - (iv) Eleven hours with no ventilation followed by 1 hour of mechanical ventilation; or
  - (v) Eleven hours with no ventilation followed by 2 hours of passive ventilation; or
  - (vi) Twenty-four hours with no ventilation.
- (4) The following Table 2 applies to paragraphs(c)(1),(2), and(3) of this section

**§ 170.112 Entry restrictions.****(a) General restrictions.**

- (1) After the application of any pesticide on an agricultural establishment, the agricultural



*AGRICULTURE - FOOD AND DRUG PROTECTION DIVISION***Table 2. — Greenhouse Entry Restrictions Associated With Pesticide Applications**

A. When a Pesticide is Applied	B. Workers are Prohibited in:	C. Unitl:	D. After the expiration of Time in Column C Until the Restricted-Entry Interval Expires, Expires the Entry-Restricted Area is:
(1) As a fumigant	Entire greenhouse plus any adjacent structure that cannot be sealed off from the treated area	The ventilation criteria of paragraph (c)(3) of this section are met	No entry restrictions after criteria in column C are met
(2) As a (i) Smoke, or (ii) Mist, or (iii) Fog, or (iv) Aerosol	Entire enclosed area	The ventilation criteria of paragraph (c)(3) of this section are met	Entire enclosed area is the treated area
(3) Not in 1 or 2 above, and for which a respiratory protection device is required for application by the product labeling	Entire enclosed area	The ventilation criteria a paragraph (c)(3) of this section are met	Treated area
(4) Not in 1, 2, or 3 above and:  (i) From a height of greater than 12 in. from the planting medium, or (ii) A fine spray, or (iii) Using a spray pressure greater than 40 psi	Treated area plus 25 feet in all directions in the enclosed area	Applicaition is complete	Treated area
(5) Otherwise	Treated area	Application is complete	Treated area

employer shall not allow or direct any worker to enter or to remain in the treated area before the restricted-entry interval specified on the pesticide labeling has expired, except as provided in this section.

- (2) Entry-restricted areas in greenhouses are specified in column D in Table 2 under § 170.110(c)(4).
  - (3) When two or more pesticides are applied at the same time, the restricted-entry interval shall be the longest of the applicable intervals.
  - (4) The agricultural employer shall assure that any worker who enters a treated area under a restricted-entry interval as permitted by paragraphs(c),(d), and(e) of this section uses the personal protective equipment specified in the product labeling for early-entry workers and follows any other requirements on the pesticide labeling regarding early entry.
- (b) **Exception for activities with no contact.** A worker may enter a treated area during a restricted-entry interval if the agricultural employer assures that both of the following are met:
- (1) The worker will have no contact with anything that has been treated with the pesticide to which the restricted-entry interval applies, including, but not limited

---

*AGRICULTURE - FOOD AND DRUG PROTECTION DIVISION*

---

- to, soil, water, air, or surfaces of plants; and
- (2) No such entry is allowed until any inhalation exposure level listed in the labeling has been reached or any ventilation criteria established by § 170.110(c)(3) or in the labeling have been met.
- (c) **Exception for short-term activities.** A worker may enter a treated area during a restricted-entry interval for short-term activities if the agricultural employer assures that the following requirements are met:
- (1) No hand labor activity is performed.
- (2) The time in treated areas under a restricted-entry interval for any worker does not exceed 1 hour in any 24-hour period.
- (3) No such entry is allowed for the first 4 hours following the end of the application, and no such entry is allowed thereafter until any inhalation exposure level listed in the labeling has been reached or any ventilation criteria established by § 170.110(c)(3) or in the labeling have been met.
- (4) The personal protective equipment specified on the product labeling for early entry is provided to the worker. Such personal protective equipment shall conform to the following standards:
- (i) Personal protective equipment(PPE) means devices and apparel that are worn to protect the body from contact with pesticides or pesticide residues, including, but not limited to, coveralls, chemical-resistant suits, chemical-resistant gloves, chemical-resistant footwear, respiratory protection devices, chemical-resistant aprons, chemical-resistant headgear, and protective eyewear.
- (ii) Long-sleeved shirts, short-sleeved shirts, long pants, short pants, shoes, socks, and other items of work clothing are not considered personal protective equipment for the purposes of this section and are not subject to the requirements of this section, although pesticide labeling may require that such work clothing be worn during some activities.
- (iii) When "chemical-resistant" personal protective equipment is specified by the product labeling, it shall be made of material that allows no measurable movement of the pesticide being used through the material during use.
- (iv) When "waterproof" personal protective equipment is specified by the product labeling, it shall be made of material that allows no measurable movement of water or aqueous solutions through the material during use.
- (v) When a "chemical-resistant suit" is specified by the product labeling, it shall be a loose-fitting, one- or two-piece, chemical-resistant garment that covers, at a minimum, the entire body except head, hands, and feet.
- (vi) When "coveralls" are specified by the product labeling, they shall be a loose-fitting, one- or two-piece garment, such as a cotton or cotton and polyester coverall, that covers, at a minimum, the entire body except head, hands, and feet. The pesticide product labeling may specify that the coveralls be worn over a layer of clothing. If a chemical-resistant suit is substituted for coveralls, it need not be worn over a layer of clothing.
- (vii) Gloves shall be of the type specified by the product labeling. Gloves or glove linings made of leather, cotton, or other absorbent materials must not be worn for early-entry activities unless these materials are listed on the product labeling as acceptable for such use. If chemical-resistant gloves with sufficient durability and suppleness are not obtainable for tasks with roses or other plants with sharp thorns, leather gloves may be worn over chemical-resistant liners. However, once leather gloves have been worn for this use, thereafter they shall be worn only with chemical-resistant liners and they shall not be worn for any other use.
- (viii) When "chemical-resistant footwear" is specified by the product labeling, it shall be one of the following types of footwear: chemical-resistant shoes, chemical-resistant boots, or chemical-resistant shoe coverings worn over shoes or boots. If chemical-resistant footwear with sufficient durability and a tread appropriate for wear in rough terrain is not obtainable for workers, then leather boots may be worn in such terrain.
- (ix) When "protective eyewear" is specified by the product labeling, it shall be



AGRICULTURE - FOOD AND DRUG PROTECTION DIVISION

- one of the following types of eyewear:goggles; face shield; safety glasses with front, brow, and temple protection; or a full-face respirator.
- (x) When "chemical-resistant headgear" is specified by the product labeling, it shall be either a chemical-resistant hood or a chemical-resistant hat with a wide brim.
  - (5) The agricultural employer shall assure that the worker, before entering the treated area, either has read the product labeling or has been informed, in a manner that the worker can understand, of all labeling requirements related to human hazards or precautions, first aid, symptoms of poisoning, personal protective equipment specified for early entry, and any other labeling requirements related to safe use.
  - (6) The agricultural employer shall assure that:
    - (i) Workers wear the personal protective equipment correctly for its intended purpose and use personal protective equipment according to manufacturer's instructions.
    - (ii) Before each day of use, all personal protective equipment is inspected for leaks, holes, tears, or worn places, and any damaged equipment is repaired or discarded.
    - (iii) Personal protective equipment that cannot be cleaned properly is disposed of in accordance with any applicable Federal, State, and local regulations.
    - (iv) All personal protective equipment is cleaned according to manufacturer's instructions or pesticide product labeling instructions before each day of reuse. In the absence of any such instructions, it shall be washed thoroughly in detergent and hot water.
    - (v) Before being stored, all clean personal protective equipment is dried thoroughly or is put in a well-ventilated place to dry.
    - (vi) Personal protective equipment contaminated with pesticides is kept separately and washed separately from any other clothing or laundry.
    - (vii) Any person who cleans or launders personal protective equipment is informed that such equipment may be contaminated with pesticides, of the potentially harmful effects of exposure to pesticides, and of the correct way(s) to handle and clean personal protective equipment and to protect themselves when handling equipment contaminated with pesticides.
    - (viii) All clean personal protective equipment is stored separately from personal clothing and apart from pesticide-contaminated areas.
    - (ix) Each worker is instructed how to put on, use, and remove the personal protective equipment and is informed about the importance of washing thoroughly after removing personal protective equipment.
    - (x) Each worker is instructed in the prevention, recognition, and first aid treatment of heat-related illness.
    - (xi) Workers have a clean place(s) away from pesticide-storage and pesticide-use areas for storing personal clothing not in use; putting on personal protective equipment at the start of any exposure period; and removing personal protective equipment at the end of any exposure period.
  - (7) When personal protective equipment is required by the labeling of any pesticide for early entry, the agricultural employer shall assure that no worker is allowed or directed to perform the early-entry activity without implementing, when appropriate, measures to prevent heat-related illness.
  - (8) During any early-entry activity, the agricultural employer shall provide a decontamination site in accordance with § 170.150.
  - (9) The agricultural employer shall not allow or direct any worker to wear home or to take home personal protective equipment contaminated with pesticides.
  - (d) **Exception for an agricultural emergency.**
    - (1) An "agricultural emergency" means a sudden occurrence or set of circumstances which the agricultural employer could not have anticipated and over which the agricultural employer has no control, and which requires entry into a treated area during a restricted-entry interval, when no alternative practices would prevent or mitigate a substantial economic loss. A substantial economic loss means a loss in profitability greater than that which would be expected based on the experience

---

*AGRICULTURE - FOOD AND DRUG PROTECTION DIVISION*

---

and fluctuations of crop yields in previous years. Only losses caused by the agricultural emergency specific to the affected site and geographic area are considered. The contribution of mismanagement cannot be considered in determining the loss.

- (2) A worker may enter a treated area under a restricted-entry interval in an agricultural emergency to perform tasks, including hand labor tasks, necessary to mitigate the effects of the agricultural emergency, if the agricultural employer assures that all the following criteria are met:

- (i) A State, Tribal, or Federal Agency having jurisdiction declares the existence of circumstances that could cause an agricultural emergency on that agricultural establishment.
- (ii) The agricultural employer determines the agricultural establishment is subject to the circumstances declared under paragraph(d)(2)(i) of this section that result in an agricultural emergency meeting the criteria of paragraph(d)(1) of this section.
- (iii) The requirements of paragraphs(c)(3) through(9) of this section are met.

- (e) **Exception requiring Agency approval.** The Agency may, in accordance with paragraphs(e)(1) through(3) of this section, grant an exception from the requirements of this section. An exception may be withdrawn in accordance with paragraph(e)(6) of this section.

- (1) **Requesting an exception.** A request for an exception must be submitted to the Director, Office of Pesticide Programs(H-7501C), Environmental Protection Agency, 401 M Street, S.W., Washington, DC 20460 and must be accompanied by two copies of the following information:

- (i) The name, address, and telephone number of the submitter.
- (ii) The time period for which the exception is requested.
- (iii) A description of the crop(s) and specific crop production task(s) for which the exception is requested. Such a description must include an explanation as to the necessity of applying pesticides of a type and at a frequency such that the restricted-entry interval would interfere with necessary and time-sensitive hand labor tasks for the period for which the exception is sought.
- (iv) A description of the geographic area for which the exception is requested. If the exception request is for a limited geographic area, the explanation must include a description as to why the circumstances of exposure or economic impact resulting from the prohibition of routine hand labor tasks during the restricted-entry interval are unique to the geographic area named in the exception.
- (v) An explanation as to why, for each requested crop-task combination, alternative practices would not be technically or financially viable. Such alternative practices might include: rescheduling the pesticide application or hand labor activity; using a non-chemical pest control alternative; using an alternative to the hand labor tasks, such as machine cultivation; or substituting a pesticide with a shorter restricted-entry interval. This information should include estimates or data on per acre revenue and cost of production for the crop and area for which the exception is requested. These estimates or data should include: the situation prior to implementation of this final rule, the situation after implementation of this final rule if the exception is not granted, the situation after implementation of this final rule if the exception is granted, and specific information on individual factors which cause differences in revenues and costs among the three situations.
- (vi) A description or documentation of the safety and feasibility of such an exception, including, but not limited to, the feasibility of performing the necessary hand labor activity while wearing the personal protective equipment required for early entry for the pesticide(s) expected to be applied, the means of mitigating heat-related illness concerns, the period of time required daily per worker to perform the hand labor activity, any suggested methods of reducing the worker's exposure, and any other mitigating factors, such as the availability of running water for routine and emergency decontamination and mechanical devices that would reduce the workers' contact with the treated surfaces. The information should include the costs associated with



AGRICULTURE - FOOD AND DRUG PROTECTION DIVISION

early-entry, such as decontamination facilities, special information and training for the workers, heat stress avoidance procedures and provision, inspection, cleaning, and maintenance of personal protective equipment. EPA will not grant exceptions where the costs of early entry equal or exceed the expected loss in value of crop yield or quality.

(2) **Notice of receipt.**

- (i) When a request for an exception is submitted to the Agency along with all of the information required in paragraph(e)(1) of this section, the Agency shall issue a notice in the **FEDERAL REGISTER** stating that an exception is being considered, describing the nature of the exception, and allowing at least 30 days for interested parties to comment.
- (ii) If a request for an exception is submitted to the Agency without all of the information required in paragraph(e)(1) of this section, the Agency shall return the request to the submitter.

(3) **Exception decision.** EPA will publish in the **FEDERAL REGISTER** its decision whether to grant the request for exception. EPA will base its decision on whether the benefits of the exception outweigh the costs, including the value of the health risks attributable to the exception. If the exception is granted, the notice will state the nature of and reasons for the exception.(4) **Presumptive denial.**

- (i) Except as provided in paragraph(e)(4)(ii) of this section, persons requesting an exception may assume that the exception has been denied if EPA has not issued its decision whether to grant the exception within 9 months from the comment-closure date specified in the **FEDERAL REGISTER** notice in which the Agency announced, in accordance with paragraph(e)(2) of this section, that it would consider the exception.
- (ii) Persons requesting an exception may not assume that the request has been denied as provided by paragraph(e)(4)(i) of this section if the Agency has taken action to extend its review period for a specified time interval due to the complexity of the exception request or to the number of exception requests concurrently under Agency review. EPA shall state the reason(s) for the delay in issuing a decision on the exception request. A notice of such an action may be published in the **FEDERAL REGISTER** or persons who requested the exception may be directly notified of the action.

(5) **Agricultural employer duties.** When a worker enters a treated area during a restricted-entry interval under an exception granted under paragraph(e) of this section, the agricultural employer shall assure that the requirements of paragraphs(c)(3) through(9) of this section are met, unless the notice granting the exception specifically indicates otherwise.(6) **Withdrawing an exception.** An exception may be withdrawn by the Agency at any time if the Agency receives poisoning information or other data that indicate that the health risks imposed by this early-entry exception are unacceptable or if the Agency receives other information that indicates that the exception is no longer necessary or prudent. If the Agency determines that an exception should be withdrawn, it will publish a notice in the **FEDERAL REGISTER**, stating the basis for its determination. Affected parties would then have 30 days to request a hearing on the Agency's determination. The exception, however, would be discontinued as of the date specified by EPA in the notice, which may include any of the 30-day period and the time required for any subsequent hearing process. Thereafter the Agency will decide whether to withdraw the exception and will publish a notice in the **Federal Register** stating its decision.(7) **List of exceptions granted by EPA.** The following administrative exceptions from the requirements of this section have been granted EPA. Each exception listed in the paragraph(e)(7) of this section contains a reference to the **Federal Register** notice in which EPA has granted the exception and the effected dates of the exception. The term and conditions of the exception appear in the referenced **Federal Register** notice.

- (i) Exception for hand labor to harvest greenhouse-grown cut roses published

AGRICULTURE - FOOD AND DRUG PROTECTION DIVISION

in the **Federal Register** of June 10, 1994, effective from June 10, 1994, to June 10, 1996.

- (ii) Exception to perform irrigation task under specified conditions published in **Federal Register** of May 3, 1995.
- (iii) Exceptions to perform limited contact task under specified conditions published in **Federal Register** of May 3, 1995.

[57 FR 38151, Aug. 21, 1992, as amended at 59 FR 30264, June 10, 1994; 60 FR 21954, May 3, 1995]

**§ 170.120 Notice of applications.**

- (a) **Notification to workers of pesticide applications in greenhouses.** The agricultural employer shall notify workers of any pesticide application in the greenhouse in accordance with this paragraph.
  - (1) All pesticide applications shall be posted in accordance with paragraph(c) of this section.
  - (2) If the pesticide product labeling has a statement requiring both the posting of treated areas and oral notification to workers, the agricultural employer shall also provide oral notification of the application to the worker in accordance with paragraph(d) of this section.
  - (3) Notice need not be given to a worker if the agricultural employer can assure that one of the following is met:
    - (i) From the start of the application until the end of the application and during any restricted-entry interval, the worker will not enter, work in, remain in, or pass through the greenhouse; or
    - (ii) The worker applied(or supervised the application of) the pesticide for which the notice is intended and is aware of all information required by paragraphs(d)(1) through(3) of this section.
- (b) **Notification to workers on farms, in nurseries, or in forests of pesticide applications.** The agricultural employer shall notify workers of any pesticide application on the farm or in the nursery or forest in accordance with this paragraph.
  - (1) If the pesticide product labeling has a statement requiring both the posting of treated areas and oral notification to workers, the agricultural employer shall post signs in accordance with paragraph(c) of this section and shall provide oral notification of the application to the worker in accordance with paragraph(d) of this section.
  - (2) For any pesticide other than those for which the labeling requires both posting and oral notification of applications, the agricultural employer shall give notice of the application to the worker either by the posting of warning signs in accordance with paragraph(c) of this section or orally in accordance with paragraph(d) of this section, and shall inform the workers as to which method of notification is in effect.
  - (3) Notice need not be given to a worker if the agricultural employer can assure that one of the following is met:
    - (i) From the start of the application until the end of the application and during any restricted-entry interval, the worker will not enter, work in, remain in, or pass through on foot the treated area or any area within 1/4 mile of the treated area; or
    - (ii) The worker applied(or supervised the application of) the pesticide for which the notice is intended and is aware of all information required by(d)(1) through(3) of this section.
- (c) **Posted warning signs.** The agricultural employer shall post warning signs in accordance with the following criteria:
  - (1) The warning sign shall have a background color that contrasts with red. The words "DANGER" and "PELIGRO," plus "PESTICIDES" and "PESTICIDAS," shall be at the top of the sign, and the words "KEEP OUT" and "NO ENTRE" shall be at the bottom of the sign. Letters for all words must be clearly legible. A circle containing an upraised hand on the left and a stern face on the right must be near the center of the sign. The inside of the circle must be red, except that the hand and a large portion of the face must be in a shade that contrasts with red. The length of the



*AGRICULTURE - FOOD AND DRUG PROTECTION DIVISION*

---

**DANGER  
PESTICIDES**

**PELIGRO  
PESTICIDAS**



**KEEP OUT  
NO ENTRE**

AGRICULTURE - FOOD AND DRUG PROTECTION DIVISION

hand must be at least twice the height of the smallest letters. The length of the face must be only slightly smaller than the hand. Additional information such as the name of the pesticide and the date of application may appear on the warning sign if it does not detract from the appearance of the sign or change the meaning of the required information. A black-and-white example of a warning sign meeting these requirements, other than the size requirements, follows:

- (2) The standard sign shall be at least 14 inches by 16 inches in size, and the letters shall be at least 1 inch in height unless a smaller sign and smaller letters are necessary because the treated area is too small to accommodate a sign of this size. In nurseries and greenhouses, the agricultural employer may, at anytime, use a sign smaller than the standard size sign. Whenever a small sign is used on any establishment, there are specific posting distances depending on the size of the lettering and symbol the sign. If a sign is used with DANGER and PELIGRO in letters 7/8 inch in height and the remaining letters at least ½ inch height and a red circle at least 3 inches in diameter containing an upraised hand and stern face, the signs shall be no further than 50 feet apart. If a sign with DANGER and PEGLIRO in letters less than 7/16 inch in height, and the remaining letters at least 1/4 inch in height or a circle smaller than 1 ½ inches in diameter containing an upraised hand and a stern face will not satisfy the requirements of the rule. All signs must meet the requirements of paragraph(c)(1) of this section.
- (3) The employer may replace the Spanish Portion of the Warning sign with a non-English language read by the largest group of workers who do not read English. The replacement sign must be in the same format as the original sign and be visible and legible.
- (4) On farms and in forests and nurseries, the signs shall be visible from all usual points of worker entry to the treated area, including at least each access road, each border with any labor camp adjacent to the treated area, and each footpath and other walking route that enters the treated area. When there are no usual points of worker entry, signs shall be posted in the corners of the treated area or in any other location affording maximum visibility.
- (5) In greenhouses, the signs shall be posted so they are visible from all usual points of worker entry to the treated area including each aisle or other walking route that enters the treated area. When there are no usual points of worker entry to the treated area, signs shall be posted in the corners of the treated area or in any other location affording maximum visibility.
- (6) The signs shall:
  - (i) Be posted no sooner than 24 hours before the scheduled application of the pesticide.
  - (ii) Remain posted throughout the application and any restricted-entry interval.
  - (iii) Be removed within 3 days after the end of the application and any restricted-entry interval and before agricultural-worker entry is permitted, other than entry permitted by § 170.112.
- (7) The signs shall remain visible and legible during the time they are posted.
- (8) When several contiguous areas are to be treated with pesticides on a rotating or sequential basis, the entire area may be posted. Worker entry, other than entry permitted by § 170.112, is prohibited for the entire area while the signs are posted.
- (d) **Oral warnings.** The agricultural employer shall provide oral warnings to workers in a manner that the worker can understand. If a worker will be on the premises during the application, the warning shall be given before the application takes place. Otherwise, the warning shall be given at the beginning of the worker's first work period during which the application is taking place or the restricted-entry interval for the pesticide is in effect. The warning consist of:
  - (1) The location and description of the treated area.
  - (2) The time during which entry is restricted.
  - (3) Instructions not to enter the treated area until the restricted-entry interval has expired.

[57 FR 38151, Aug. 21, 1992, ass amended at 61 FR 38207, June 26, 1996]



*AGRICULTURE - FOOD AND DRUG PROTECTION DIVISION***§ 170.122 Providing specific information about applications.**

When workers are on an agricultural establishment and, within the last 30 days, a pesticide covered by this subpart has been applied on the establishment or a restricted-entry interval has been in effect, the agricultural employer shall display, in accordance with this section, specific information about the pesticide.

- (a) **Location, accessibility, and legibility.** The information shall be displayed in the location specified for the pesticide safety poster in § 170.135(d) and shall be accessible and legible, as specified in § 170.135(e) and (f).
- (b) **Timing.**
  - (1) If warning signs are posted for the treated area before an application, the specific application information for that application shall be posted at the same time or earlier.
  - (2) The information shall be posted before the application takes place, if workers will be on the establishment during application. Otherwise, the information shall be posted at the beginning of any worker's first work period.
  - (3) The information shall continue to be displayed for at least 30 days after the end of the restricted-entry interval(or, if there is no restricted-entry interval, for at least 30 days after the end of the application) or at least until workers are no longer on the establishment, whichever is earlier.
- (c) **Required information.** The information shall include:
  - (1) The location and description of the treated area.
  - (2) The product name, EPA registration number, and active ingredient(s) of the pesticide.
  - (3) The time and date the pesticide is to be applied.
  - (4) The restricted-entry interval for the pesticide.

**§ 170.124 Notice of applications to handler employers.**

Whenever handlers who are employed by a commercial pesticide handling establishment will be performing pesticide handling tasks on an agricultural establishment, the agricultural employer shall provide to the handler employer, or assure that the handler employer is aware of, the following information concerning any areas on the agricultural establishment thanthe handler may be in(or may walk within 1/4 mile of) and that may be treated with a pesticide or that may be under a restricted-entry interval while the handler will be on the agricultural establishment:

- (a) Specific location and description of any such areas; and
- (b) Restrictions on entering those areas.

**§ 170.130 Pesticide safety training for farmers.****(a) General requirement -**

- (1) **Agricultural employer assurance.** The agricultural employer shall assure that each worker, required by this section to be trained, has been trained according to this section during the last 5 years, counting from the end of the month in which the training was completed.
- (2) **Requirement for workers performing early-entry activities.** Before a worker enters a treated area on the agricultural establishment during a restricted-entry interval to perform early-entry activities permitted by § 170.112 and contacts anything that has been treated with the pesticide to which the restricted-entry interval applies, including but not limited to, soil, water, or surfaces of plants, the agricultural employer shall assure that the worker has been trained.
- (3) **Requirement for other agricultural workers -**
  - (i) **Information before entry.** As of January 1, 1996, and except as provided in paragraph(a)(2) of this section before a worker enters any areas on the agricultural establishment where, within the last 30 days a pesticide to which this subpart applies has been applied or the restricted-entry interval for such pesticide has been in effect, the agricultural employer shall assure that the worker has been provided the safety information

---

**AGRICULTURE - FOOD AND DRUG PROTECTION DIVISION**

---

- specified in paragraph(c), in a manner that agricultural workers can understand, such as by providing written materials or oral communication or by other means. The agricultural employer must be able to verify compliance with the requirement.
- (ii) **Training before the 6th day of entry.** Except as provided in paragraph(a)(2) of this section, before the 6th day that a worker enters any areas on the agricultural establishment where, within the last 30 days a pesticide to which this subpart applies has been applied or a restricted-entry interval for such pesticide has been in effect, the agricultural employer shall assure that the worker has been trained.
  - (iii) **Exception during interim period.** Until December 31, 1995, and except as provided in paragraph(a)(2) of this section, before the 16th day that a worker enters any areas on the agricultural establishment where, within the last 30 days a pesticide to which this subpart applies has been applied or a restricted-entry interval for such pesticide has been in effect, the agricultural employer shall assure that the worker has been trained. After December 31, 1995, this exception no longer applies.
- (b) **Exception.** The following persons need not be trained under this section:
- (1) A worker who is a currently certified as an applicator of restricted-use pesticides under part 171 of this chapter or who satisfies the training requirements of part 171 of this chapter.
  - (2) A worker who satisfies the training requirements of part 171 of this chapter.
  - (3) A worker who satisfies the handler training requirements of §170.230(c).
  - (4) A worker who is certified or licensed as a crop advisor by a program acknowledged as appropriate in writing by EPA or a state or Tribal lead agency for pesticide enforcement, provided that a requirement for such certification or licensing is pesticide safety training that includes all the information set out in §170.230(c)(4).
- (c) **Pesticide safety information.** The pesticide safety information required by paragraph(a)(3)(i) shall be presented to workers in a manner that the workers can understand. At a minimum, the following information shall be provided:
- (1) Pesticides may be on or in plants, soil, irrigation water, or drifting from nearby applications.
  - (2) Prevent pesticides from entering your body by:
    - (i) Following directions and/or signs about keeping out of treated or restricted areas.
    - (ii) Washing before eating, drinking, using chewing gum or tobacco, or using the toilet.
    - (iii) Wearing work clothing that protects the body from pesticide residues.
    - (iv) Washing/showering with soap and water, shampoo hair, and put on clean clothes after work.
    - (v) Washing work clothes separately from other clothes before wearing them again.
    - (vi) Washing immediately in the nearest clean water if pesticides are spilled or sprayed on the body As soon as possible, shower shampoo, and change into clean clothes.
  - (3) Further training will be provided within 5 days.
- (d) **Training programs.**
- (1) General pesticide safety information shall be presented to workers either orally from written materials or audiovisually. The information must be presented in a manner that the workers can understand(such as through a translator) using nontechnical terms. The presenter also shall respond to workers' questions.
  - (2) The person who conducts the training shall meet at least one of the following criteria:
    - (i) Be currently certified as an applicator of restricted-use pesticides under part 171 of this chapter; or
    - (ii) Be currently designated as a trainer of certified applicators or pesticide handlers by a State, Federal, or Tribal agency having jurisdiction; or



*AGRICULTURE - FOOD AND DRUG PROTECTION DIVISION*

- (iii) Have completed a pesticide safety train-the-trainer program approved by a State, Federal, or Tribal agency having jurisdiction; or
- (iv) Satisfy the training requirements in part 171 of this chapter or in § 170.230(c).
- (3) Any person who issues an EPA-approved Worker Protection Standard worker training certificate must assure that the worker who receives the training certificate has been trained in accordance with(c)(4) of this section.
- (4) The training materials shall convey, at a minimum, the following information:
  - (i) Where and in what form pesticides may be encountered during work activities.
  - (ii) Hazards of pesticides resulting from toxicity and exposure, including acute and chronic effects, delayed effects, and sensitization.
  - (iii) Routes through which pesticides can enter the body.
  - (iv) Signs and symptoms of common types of pesticide poisoning.
  - (v) Emergency first aid for pesticide injuries or poisonings.
  - (vi) How to obtain emergency medical care.
  - (vii) Routine and emergency decontamination procedures, including emergency eye flushing techniques.
  - (viii) Hazards from chemigation and drift.
  - (ix) Hazards from pesticide residues on clothing.
  - (x) Warnings about taking pesticides or pesticide containers home.
  - (xi) Requirements of this subpart designed to reduce the risks of illness or injury resulting from workers' occupational exposure to pesticides, including application and entry restrictions, the design of the warning sign, posting of warning signs, oral warnings, the availability of specific information about applications, and the protection against retaliatory acts.
- (e) **Verification of training.**
  - (1) Except as provided in paragraph(d)(2) of this section, if the agricultural employer assures that a worker possesses an EPA-approved Worker Protection Standard worker training certificate, then the requirements of paragraph(a)and(c ) of this section will have been met.
  - (2) If the agricultural employer is aware or has reason to know that an EPA-approved Worker Protection Standard worker training certificate has not been issued in accordance with this section, or has not been issued to the worker bearing the certificate, or the training was completed more than 5 years before the beginning of the current month, a worker's possession of that certificate does not meet the requirements of paragraph(a) of this section.

[57 FR 38151, Aug. 21, 1992, as amended at 60 FR 21947, 21952, May 3, 1995]

**§ 170.135 Posted pesticide safety information.**

- (a) **Requirement.** When workers are on an agricultural establishment and, within the last 30 days, a pesticide covered by this subpart has been applied on the establishment or a restricted-entry interval has been in effect, the agricultural employer shall display, in accordance with this section, pesticide safety information.
- (b) **Pesticide safety poster.** A safety poster must be displayed that conveys, at a minimum, the following basic pesticide safety concepts:
  - (1) Help keep pesticides from entering your body. At a minimum, the following points shall be conveyed:
    - (i) Avoid getting on your skin or into your body any pesticides that may be on plants and soil, in irrigation water, or drifting from nearby applications.
    - (ii) Wash before eating, drinking, using chewing gum or tobacco, or using the toilet.
    - (iii) Wear work clothing that protects the body from pesticide residues(long-sleeved shirts, long pants, shoes and socks, and a hat or scarf).
    - (iv) Wash/shower with soap and water, shampoo hair, and put on clean clothes after work.
    - (v) Wash work clothes separately from other clothes before wearing them again.
    - (vi) Wash immediately in the nearest clean water if pesticides are spilled or sprayed on the body. As soon as possible, shower, shampoo, and change into clean clothes.

---

*AGRICULTURE - FOOD AND DRUG PROTECTION DIVISION*

---

- (vii) Follow directions about keeping out of treated or restricted areas.
- (2) There are Federal rules to protect workers and handlers, including a requirement for safety training.
- (c) **Emergency medical care information.**
  - (1) The name, address, and telephone number of the nearest emergency medical care facility shall be on the safety poster or displayed close to the safety poster.
  - (2) The agricultural employer shall inform workers promptly of any change to the information on emergency medical care facilities.
- (d) **Location.**
  - (1) The information shall be displayed in a central location on the farm or in the nursery or greenhouse where it can be readily seen and read by workers.
  - (2) The information shall be displayed in a location in or near the forest in a place where it can be readily seen and read by workers and where workers are likely to congregate or pass by, such as at a decontamination site or an equipment storage site.
- (e) **Accessibility.** Workers shall be informed of the location of the information and shall be allowed access to it.
- (f) **Legibility.** The information shall remain legible during the time it is posted.

**§ 170.150 Decontamination.**

- (a) **Requirement.**
  - (1) The agricultural employer must provide decontamination supplies for workers in accordance with this section whenever:
    - (i) Any worker on an agricultural establishment performing an activity in the area where a pesticide was applied or a restricted-entry interval(REI) was in effect within the last 30 days, and;
    - (ii) The worker that contacts anything that has been treated with the pesticide, including, but not limited to soil, water, plants, plant surfaces, and plant parts.
  - (2) **Exception.** The 30-day time period established in paragraph(a)(1)(I) of this section shall not apply if the only pesticides used in the treated area are products with an REI of 4 hours or less on the label(but not a product without an REI on the label). When workers are in such treated areas, the agricultural employer shall provide decontamination supplies for not less than 7 days following the expiration of any applicable REI.
- (b) **General conditions.**
  - (1) The agricultural employer shall provide workers with enough water for routine washing and emergency eye flushing. At all times when the water is available to workers, the employer shall assure that it is of a quality and temperature that will not cause illness or injury when it contacts the skin or eyes or if it is swallowed.
  - (2) When water stored in a tank is to be used for mixing pesticides, it shall not be used for decontamination or eye flushing, unless the tank is equipped with properly functioning valves or other mechanisms that prevent movement of pesticides into the tank.
  - (3) The agricultural employer shall provide soap and single-use towels at each decontamination site in quantities sufficient to meet workers' needs.
  - (4) To provide for emergency eye flushing, the agricultural employer shall assure that at least 1 pint of water is immediately available to each worker who is performing early-entry activities permitted by § 170.112 and for which the pesticide labeling requires protective eyewear. The eye flush water shall be carried by the early-entry worker, or shall be on the vehicle the early-entry worker is using, or shall be otherwise immediately accessible.
- (c) **Location.**
  - (1) The decontamination site shall be reasonably accessible to and not more than 1/4 mile from where workers are working.
  - (2) For worker activities performed more than 1/4 mile from the nearest place of vehicular access:



AGRICULTURE - FOOD AND DRUG PROTECTION DIVISION

- (i) The soap, single-use towels, and water may be at the nearest place of vehicular access.
- (ii) The agricultural employer may permit workers to use clean water from springs, streams, lakes, or other sources for decontamination at the remote work site, if such water is more accessible than the water at the decontamination site located at the nearest place of vehicular access.
- (3) The decontamination site shall not be in an area being treated with pesticides.
- (4) The decontamination site shall not be in an area that is under a restricted-entry interval, unless the workers for whom the site is provided are performing early-entry activities permitted by § 170.112 and involving contact with treated surfaces and the decontamination site would otherwise not be reasonably accessible to those workers.
- (d) **Decontamination after early-entry activities.** At the end of any exposure period for workers engaged in early-entry activities permitted by § 170.112 and involving contact with anything that has been treated with the pesticide to which the restricted-entry interval applies, including, but not limited to, soil, water, air, or surfaces of plants, the agricultural employer shall provide, at the site where the workers remove personal protective equipment, soap, clean towels, and a sufficient amount of water so that the workers may wash thoroughly.

[57 FR 38151, Aug 21, 1992, as amended at 61 FR 33212, June 26, 1996]

**§ 170.160 Emergency assistance.**

If there is reason to believe that a person who is or has been employed on an agricultural establishment to perform tasks related to the production of agricultural plants has been poisoned or injured by exposure to pesticides used on the agricultural establishment, including, but not limited to, exposures from application, splash, spill, drift, or pesticide residues, the agricultural employer shall:

- (a) Make available to that person prompt transportation from the agricultural establishment, including any labor camp on the agricultural establishment, to an appropriate emergency medical facility.
- (b) Provide to that person or to treating medical personnel, promptly upon request, any obtainable information on:
  - (1) Product name, EPA registration number, and active ingredients of any product to which that person might have been exposed.
  - (2) Antidote, first aid, and other medical information from the product labeling.
  - (3) The circumstances of application or use of the pesticide on the agricultural establishment.
  - (4) The circumstances of exposure of that person to the pesticide.

**SUBPART C - Standard for Pesticide Handlers****§ 170.202 Applicability of this subpart.**

Except as provided by §§170.203 and 170.204, this subpart applies when any pesticide is handled for use on an agricultural establishment.

[60 FR 21952, May 3, 1995]

**§ 170.203 Exceptions.**

**Exceptions.** This subpart does not apply when any pesticide is handled for use on an agricultural establishment in the following circumstances:

- (a) For mosquito abatement, Mediterranean fruit fly eradication, or similar wide-area public pest control programs sponsored by governmental entities.
- (b) On livestock or other animals, or in or about animal premises.
- (c) On plants grown for other than commercial or research purposes, which may include plants in habitations, home fruit and vegetable gardens, and home greenhouses.
- (d) On plants that are in ornamental gardens, parks, and public or private lawns and grounds and that are intended only for aesthetic purposes or climatic modification.
- (e) In a manner not directly related to the production of agricultural plants, including, but not limited to, structural pest control, control of vegetation along rights-of-way and in

**AGRICULTURE - FOOD AND DRUG PROTECTION DIVISION**

---

- other noncrop areas, and pasture and rangeland use.
  - (f) For control of vertebrate pests.
  - (g) As attractants or repellents in traps.
  - (h) On the harvested portions of agricultural plants or on harvested timber.
  - (i) For research uses of unregistered pesticides.
- [57 FR 38151, Aug. 21, 1992. Redesignated at 60 FR 21952, May 3, 1995]

**§ 170.204 Exemptions.**

The handlers listed in this section are exempt from the specified provisions of this subpart.

**(a) Owners of agricultural establishments.**

- (1) The owner of an agricultural establishment is not required to provide to himself or members of his immediate family who are performing handling tasks on their own agricultural establishment the protections of:
  - (i) Section 170.210(b) and (c).
  - (ii) Section 170.222.
  - (iii) Section 170.230.
  - (iv) Section 170.232.
  - (v) Section 170.234.
  - (vi) Section 170.235.
  - (vii) Section 170.240(e) through (g).
  - (viii) Section 170.250.
  - (ix) Section 170.260.
- (2) The owner of the agricultural establishment must provide the protections listed in paragraphs (a)(1)(i) through (ix) of this section to other handlers and other persons who are not members of his immediate family.

**(b) Crop advisors.**

- (1) Provided that the conditions of paragraph (b)(2) of this section are met, a person who is certified or licensed as a crop advisor by a program acknowledged as appropriate in writing by EPA or a State or Tribal lead agency for pesticide enforcement, and persons performing crop advising task under such qualified crop advisor's direct supervision, are exempt from the provisions of:
  - (i) Section 170.232.
  - (ii) Section 170.240.
  - (iii) Section 170.250.
  - (iv) Section 170.260.

A person is under the direct supervision of crop advisor when the crop advisor exerts the supervisory control set out in paragraphs (b)(2)(iv) and (v) of this section. Direct supervision does not require that the crop advisor be physically present at all times, but the crop advisor must be readily accessible to the employees at all times.

**(2) Conditions of exemption.**

- (i) The certification or licensing program requires pesticide safety training that includes, at least, all the information in § 170.230(c)(4).
- (ii) No entry into the treated area occurs until after application ends.
- (iii) Applies only when performing crop advising tasks in the treated area.
- (iv) The crop advisor must make specific determination supplies, and how to conduct the task safely. The crop advisor must convey this information to each person under his direct supervision in a language that the person understands.
- (v) Before entering a treated area, the certified or licensed crop advisor must inform, through an established practice of communication, each person under his direct supervision of the pesticide products and active ingredient(s) applied, method of application, time of application, the restricted entry interval, which task to undertake, and how to contact the crop advisor.

**(c) Grace period for persons performing crop advisor task who are not certified or licensed.**

- (1) Provided that the conditions of paragraph (c)(2) of this section are met, a



*AGRICULTURE - FOOD AND DRUG PROTECTION DIVISION*

person who is neither certified nor licensed as a crop advisor and any person performing crop advising task under his direct supervision is exempt until may 1, 1996, from the requirements of:

- (i) Section 170.230.
- (ii) Section 170.232.
- (iii) Section 170.240.
- (iv) Section 170.250.
- (v) Section 170.260.
- (2) Conditions of exemption.
  - (i) No entry into the treated area occurs until after the application ends.
  - (ii) Applies only when the persons are performing crop advising task in the treated area.
  - (iii) The crop advisor must take specific determinations regarding the appropriate PPE, appropriate decontamination supplies, and how to conduct the tasks safely. The crop advisor must convey this information to each person under his direct supervision in a language that the person understands.
  - (iv) Before entering a treated area, the crop advisor must inform, through an established practice of communication, each person under his direct supervision of the pesticide products and active ingredient(s) applied, method of application, time of application, the restricted entry interval, which task to undertake, and how to contact the crop advisor.

[60 FR 21953, May 3, 1995]

**§ 170.210 Restrictions during applications.**

- (a) **Contact with workers and other persons.** The handler employer and the handler shall assure that no pesticide is applied so as to contact, either directly or through drift, any worker or other person, other than an appropriately trained and equipped handler.
- (b) **Handlers handling highly toxic pesticides.** The handler employer shall assure that any handler who is performing any handling activity with a product that has the skull and crossbones symbol on the front panel of the label is monitored visually or by voice communication at least every 2 hours.
- (c) **Fumigant applications in greenhouses.** The handler employer shall assure:
  - (1) That any handler who handles a fumigant in a greenhouse, including a handler who enters the greenhouse before the acceptable inhalation exposure level or ventilation criteria have been met to monitor air levels or to initiate ventilation, maintains continuous visual or voice contact with another handler.
  - (2) That the other handler has immediate access to the personal protective equipment required by the fumigant labeling for handlers in the event entry into the fumigated greenhouse becomes necessary for rescue.

**§ 170.222 Providing specific information about applications.**

When handlers(except those employed by a commercial pesticide handling establishment) are on an agricultural establishment and, within the last 30 days, a pesticide covered by this subpart has been applied on the establishment or a restricted-entry interval has been in effect, the handler employer shall display, in accordance with this section, specific information about the pesticide.

- (a) **Location, accessibility, and legibility.** The information shall be displayed in the same location specified for the pesticide safety poster in § 170.235(d) of this part and shall be accessible and legible, as specified in § 170.235(e) and(f) of this part.
- (b) **Timing.**
  - (1) If warning signs are posted for the treated area before an application, the specific application information for that application shall be posted at the same time or earlier.
  - (2) The information shall be posted before the application takes place, if handlers(except those employed by a commercial pesticide handling establishment) will be on the establishment during application. Otherwise, the information shall be posted at

---

*AGRICULTURE - FOOD AND DRUG PROTECTION DIVISION*

---

- the beginning of any such handler's first work period.
- (3) The information shall continue to be displayed for at least 30 days after the end of the restricted-entry interval(or, if there is no restricted-entry interval, for at least 30 days after the end of the application) or at least until the handlers are no longer on the establishment, whichever is earlier.
- (c) **Required information.** The information shall include:
- (1) The location and description of the treated area.
  - (2) The product name, EPA registration number, and active ingredient(s) of the pesticide.
  - (3) The time and date the pesticide is to be applied.
  - (4) The restricted-entry interval for the pesticide.

**§ 170.224 Notice of applications to agricultural employers.**

Before the application of any pesticide on or in an agricultural establishment, the handler employer shall provide the following information to any agricultural employer for the establishment or shall assure that any agricultural employer is aware of

- (a) Specific location and description of the treated area.
- (b) Time and date of application.
- (c) Product name, EPA registration number, and active ingredient(s).
- (d) Restricted-entry interval.
- (e) Whether posting and oral notification are required.
- (f) Any other product-specific requirements on the product labeling concerning protection of workers or other persons during or after application.

**§ 170.230 Pesticide safety training.**

- (a) **Requirement.** Before any handler performs any handling task, the handler employer shall assure that the handler has been trained in accordance with this section during the last 5 years, counting from the end of the month in which the training was completed.
- (b) **Exception.** The following persons need not to be trained under this section:
- (1) A handler who is currently certified as an applicator of restricted-use pesticides under part 171 of this chapter or who satisfies the training requirements of part 171 of this chapter need not be trained under this section.
  - (2) A handler who satisfies the training requirements of part 171 of this chapter.
  - (3) A handler who is certified or licensed as a crop advisor by a program acknowledged as appropriate in writing by EPA or a state or Tribal lead agency for pesticide enforcement, provided that a requirement for such certification or licensing is pesticide safety training that includes all the information set out in §170.230(c)(4).
- (c) **Training programs.**
- (1) General pesticide safety information shall be presented to handlers either orally from written materials or audiovisually. The information must be presented in a manner that the handlers can understand(such as through a translator). The presenter also shall respond to handlers' questions.
  - (2) The person who conducts the training shall meet at least one of the following criteria:
    - (i) Be currently certified as an applicator of restricted-use pesticides under part 171 of this chapter; or
    - (ii) Be currently designated as a trainer of certified applicators or pesticide handlers by a State, Federal, or Tribal agency having jurisdiction.
    - (iii) Have completed a pesticide safety train-the-trainer program approved by a State, Federal, or Tribal agency having jurisdiction.
  - (3) Any person who issues an EPA-approved Worker Protection Standard handler training certificate must assure that the handler who receives the training certificate has been trained in accordance with paragraph(c)(4) of this section.
  - (4) The pesticide safety training materials must convey, at a minimum, the following information:
    - (i) Format and meaning of information contained on pesticide labels and in labeling, including safety information such as precautionary statements about



*AGRICULTURE - FOOD AND DRUG PROTECTION DIVISION*

---

- human health hazards.
  - (ii) Hazards of pesticides resulting from toxicity and exposure, including acute and chronic effects, delayed effects, and sensitization.
  - (iii) Routes by which pesticides can enter the body.
  - (iv) Signs and symptoms of common types of pesticide poisoning.
  - (v) Emergency first aid for pesticide injuries or poisonings.
  - (vi) How to obtain emergency medical care.
  - (vii) Routine and emergency decontamination procedures.
  - (viii) Need for and appropriate use of personal protective equipment.
  - (ix) Prevention, recognition, and first aid treatment of heat-related illness.
  - (x) Safety requirements for handling, transporting, storing, and disposing of pesticides, including general procedures for spill cleanup.
  - (xi) Environmental concerns such as drift, runoff, and wildlife hazards.
  - (xii) Warnings about taking pesticides or pesticide containers home.
  - (xiii) Requirements of this subpart that must be followed by handler employers for the protection of handlers and other persons, including the prohibition against applying pesticides in a manner that will cause contact with workers or other persons, the requirement to use personal protective equipment, the provisions for training and decontamination, and the protection against retaliatory acts.
  - (d) **Verification of training.**
    - (1) Except as provided in paragraph(d)(2) of this section, if the handler employer assures that a handler possesses an EPA-approved Worker Protection Standard handler training certificate, then the requirements of paragraph(a) of this section will have been met.
    - (2) If the handler employer is aware or has reason to know that an EPA-approved Worker Protection Standard handler training certificate has not been issued in accordance with this section, or has not been issued to the handler bearing the certificate, or the handler training was completed more than 5 years before the beginning of the current month, a handler's possession of that certificate does not meet the requirements of paragraph(a) of this section.
- [57 FR 38151, Aug 21, 1992, as amended at 60 FR 21953, May 3, 1995]

**§ 170.232 Knowledge of labeling and site-specific information.**

- (a) **Knowledge of labeling information.**
  - (1) The handler employer shall assure that before the handler performs any handling activity, the handler either has read the product labeling or has been informed in a manner the handler can understand of all labeling requirements related to safe use of the pesticide, such as signal words, human hazard precautions, personal protective equipment requirements, first aid instructions, environmental precautions, and any additional precautions pertaining to the handling activity to be performed.
  - (2) The handler employer shall assure that the handler has access to the product labeling information during handling activities.
- (b) **Knowledge of site-specific information.** Whenever a handler who is employed by a commercial pesticide handling establishment will be performing pesticide handling tasks on an agricultural establishment, the handler employer shall assure that the handler is aware of the following information concerning any areas on the agricultural establishment that the handler may be in (or may walk within 1/4 mile of) and that may be treated with a pesticide or that may be under a restricted-entry interval while the handler will be on the agricultural establishment:
  - (1) Specific location and description of any such areas; and
  - (2) Restrictions on entering those areas.

**§ 170.234 Safe operation of equipment.**

- (a) The handler employer shall assure that before the handler uses any equipment for mixing, loading, transferring, or applying pesticides, the handler is instructed in the safe

AGRICULTURE - FOOD AND DRUG PROTECTION DIVISION

operation of such equipment, including, when relevant, chemigation safety requirements and drift avoidance.

- (b) The handler employer shall assure that, before each day of use, equipment used for mixing, loading, transferring, or applying pesticides is inspected for leaks, clogging, and worn or damaged parts, and any damaged equipment is repaired or is replaced.
- (c) Before allowing any person to repair, clean, or adjust equipment that has been used to mix, load, transfer, or apply pesticides, the handler employer shall assure that pesticide residues have been removed from the equipment, unless the person doing the cleaning, repairing, or adjusting is a handler employed by the agricultural or commercial pesticide handling establishment. If pesticide residue removal is not feasible, the handler employer shall assure that the person who repairs, cleans, or adjusts such equipment is informed:
  - (1) That such equipment may be contaminated with pesticides.
  - (2) Of the potentially harmful effects of exposure to pesticides.
  - (3) Of the correct way to handle such equipment.

**§170.235 Posted pesticide safety information.**

- (a) **Requirement.** When handlers(except those employed by a commercial pesticide handling establishment) are on an agricultural establishment and, within the last 30 days, a pesticide covered by this subpart has been applied on the establishment or a restricted-entry interval has been in effect, the handler employer shall display, in accordance with this section, pesticide safety information.
- (b) **Pesticide safety poster.** A safety poster must be displayed that conveys, at a minimum, the following basic pesticide safety concepts:
  - (1) Help keep pesticides from entering your body. At a minimum, the following points shall be conveyed:
    - (i) Avoid getting on your skin or into your body any pesticides that may be on plants and soil, in irrigation water, or drifting from nearby applications.
    - (ii) Wash before eating, drinking, using chewing gum or tobacco, or using the toilet.
    - (iii) Wear work clothing that protects the body from pesticide residues(long-sleeved shirts, long pants, shoes and socks, and a hat or scarf).
    - (iv) Wash/shower with soap and water, shampoo hair, and put on clean clothes after work.
    - (v) Wash work clothes separately from other clothes before wearing them again.
    - (vi) Wash immediately in the nearest clean water if pesticides are spilled or sprayed on the body. As soon as possible, shower, shampoo, and change into clean clothes.
    - (vii) Follow directions about keeping out of treated or restricted areas.
  - (2) There are Federal rules to protect workers and handlers including a requirement for safety training.
- (c) **Emergency medical care information.**
  - (1) The name, address, and telephone number of the nearest emergency medical care facility shall be on the safety poster or displayed close to the safety poster.
  - (2) The handler employer shall inform handlers promptly of any change to the information on emergency medical care facilities.
- (d) **Location.**
  - (1) The information shall be displayed in a central location on the farm or in the nursery or greenhouse where it can be readily seen and read by handlers.
  - (2) The information shall be displayed in a location in or near the forest in a place where it can be readily seen and read by handlers and where handlers are likely to congregate or pass by, such as at a decontamination site or an equipment storage site.
- (e) **Accessibility.** Handlers shall be informed of the location of the information and shall be allowed access to it.
- (f) **Legibility.** The information shall remain legible during the time it is posted.

**§170.240 Personal protective equipment.**



*AGRICULTURE - FOOD AND DRUG PROTECTION DIVISION*

- (a) **Requirement.** Any person who performs tasks as a pesticide handler shall use the clothing and personal protective equipment specified on the labeling for use of the product.
- (b) **Definition.**
- (1) Personal protective equipment(PPE) means devices and apparel that are worn to protect the body from contact with pesticides or pesticide residues, including, but not limited to, coveralls, chemical-resistant suits, chemical-resistant gloves, chemical-resistant footwear, respiratory protection devices, chemical-resistant aprons, chemical-resistant headgear, and protective eyewear.
  - (2) Long-sleeved shirts, short-sleeved shirts, long pants, short pants, shoes, socks, and other items of work clothing are not considered personal protective equipment for the purposes of this section and are not subject to the requirements of this section, although pesticide labeling may require that such work clothing be worn during some activities.
- (c) **Provision.** When personal protective equipment is specified by the labeling of any pesticide for any handling activity, the handler employer shall provide the appropriate personal protective equipment in clean and operating condition to the handler.
- (1) When "chemical-resistant" personal protective equipment is specified by the product labeling, it shall be made of material that allows no measurable movement of the pesticide being used through the material during use.
  - (2) When "waterproof" personal protective equipment is specified by the product labeling, it shall be made of material that allows no measurable movement of water or aqueous solutions through the material during use.
  - (3) When a "chemical-resistant suit" is specified by the product labeling, it shall be a loose-fitting, one- or two-piece chemical-resistant garment that covers, at a minimum, the entire body except head, hands, and feet.
  - (4) When "coveralls" are specified by the product labeling, they shall be a loose-fitting, one- or two-piece garment, such as a cotton or cotton and polyester coverall, that covers, at a minimum, the entire body except head, hands, and feet. The pesticide product labeling may specify that the coveralls be worn over another layer of clothing.
  - (5) Gloves shall be of the type specified by the product labeling. Gloves or glove linings made of leather, cotton, or other absorbent material shall not be worn for handling activities unless such materials are listed on the product labeling as acceptable for such use.
  - (6) When "chemical-resistant footwear" is specified by the product labeling, one of the following types of footwear must be worn:
    - (i) Chemical-resistant shoes.
    - (ii) Chemical-resistant boots.
    - (ii) Chemical-resistant shoe coverings worn over shoes or boots.
  - (7) When "protective eyewear" is specified by the product labeling, one of the following types of eyewear must be worn:
    - (i) Goggles.
    - (ii) Face shield.
    - (iii) Safety glasses with front, brow, and temple protection.
    - (iv) Full-face respirator.
  - (8) When a "chemical-resistant apron" is specified by the product labeling, an apron that covers the front of the body from mid-chest to the knees shall be worn.
  - (9) When a respirator is specified by the product labeling, it shall be appropriate for the pesticide product used and for the activity to be performed. The handler employer shall assure that the respirator fits correctly.
  - (10) When "chemical-resistant headgear" is specified by the product labeling, it shall be either a chemical resistant hood or a chemical-resistant hat with a wide brim.
- (d) **Exceptions to personal protective equipment specified on product labeling -**
- (1) **Body protection.**
    - (i) A chemical-resistant suit may be substituted for "coveralls," and any requirement for an additional layer of clothing beneath is waived.
    - (ii) A chemical-resistant suit may be substituted for "coveralls" and a chemical-resistant apron.

---

*AGRICULTURE - FOOD AND DRUG PROTECTION DIVISION*

---

- (2) **Boots.** If chemical-resistant footwear with sufficient durability and a tread appropriate for wear in rough terrain is not obtainable, then leather boots may be worn in such terrain.
- (3) **Gloves.** If chemical-resistant gloves with sufficient durability and suppleness are not obtainable, then during handling activities with roses or other plants with sharp thorns, leather gloves may be worn over chemical-resistant glove liners. However, once leather gloves are worn for this use, thereafter they shall be worn only with chemical-resistant liners and they shall not be worn for any other use.
- (4) **Closed systems.** If handling tasks are performed using properly functioning systems that enclose the pesticide to prevent it from contacting handlers or other persons, and if such systems are used and are maintained in accordance with that manufacturer's written operating instructions, exceptions to labeling-specified personal protective equipment for the handling activity are permitted as provided in paragraphs(d)(4)(I) and(ii) of this section.
  - (i) Persons using a closed system to mix or load pesticides with a signal word of DANGER or WARNING may substitute a long-sleeved shirt, long pants, shoes, socks, chemical-resistant apron, and any protective gloves specified on the labeling for handlers for the labeling-specified personal protective equipment.
  - (ii) Persons using a closed system to mix or load pesticides other than those in paragraph(d)(4)(I) of this section or to perform other handling tasks may substitute a long-sleeved shirt, long pants, shoes, and socks for the labeling-specified personal protective equipment.
  - (iii) Persons using a closed system that operates under pressure shall wear protective eyewear.
  - (iv) Persons using a closed system shall have all labeling-specified personal protective equipment immediately available for use in an emergency.
- (5) **Enclosed cabs.** If handling tasks are performed from inside a cab that has a nonporous barrier which totally surrounds the occupants of the cab and prevents contact with pesticides outside of the cab, exceptions to personal protective equipment specified on the product labeling for that handling activity are permitted as provided in paragraphs(d)(5)(I) through(iv) of this section.
  - (i) Persons occupying an enclosed cab may substitute a long-sleeved shirt, long pants, shoes, and socks for the labeling-specified personal protective equipment. If a respiratory protection device is specified on the pesticide product labeling for the handling activity, it must be worn.
  - (ii) Persons occupying an enclosed cab that has a properly functioning ventilation system which is used and maintained in accordance with the manufacturer's written operating instructions and which is declared in writing by the manufacturer or by a governmental agency to provide respiratory protection equivalent to or greater than a dust/mist filtering respirator may substitute a long-sleeved shirt, long pants, shoes, and socks for the labeling-specified personal protective equipment. If a respiratory protection device other than a dust/mist-filtering respirator is specified on the pesticide product labeling, it must be worn.
  - (iii) Persons occupying an enclosed cab that has a properly functioning ventilation system which is used and maintained in accordance with the manufacturer's written operating instructions and which is declared in writing by the manufacturer or by a governmental agency to provide respiratory protection equivalent to or greater than the vapor- or gas-removing respirator specified on pesticide product labeling may substitute a long-sleeved shirt, long pants, shoes, and socks for the labeling-specified personal protective equipment. If an air-supplying respirator or a self-contained breathing apparatus(SCBA) is specified on the pesticide product labeling, it must be worn.
  - (iv) Persons occupying an enclosed cab shall have all labeling-specified personal protective equipment immediately available and stored in a chemical-resistant container, such as a plastic bag. They shall wear such personal protective equipment if it is necessary to exit the cab and contact pesticide-treated



*AGRICULTURE - FOOD AND DRUG PROTECTION DIVISION*

---

surfaces in the treated area. Once personal protective equipment is worn in the treated area, it must be removed before reentering the cab.

- (6) **Aerial applications -**
  - (i) **Use of gloves.** Chemical-resistant gloves shall be worn when entering or leaving an aircraft contaminated by pesticide residues. In the cockpit, the gloves shall be kept in an enclosed container to prevent contamination of the inside of the cockpit.
  - (ii) **Open cockpit.** Persons occupying an open cockpit shall use the personal protective equipment specified in the product labeling for use during application, except that chemical-resistant footwear need not be worn. A helmet may be substituted for chemical-resistant headgear. A visor may be substituted for protective eyewear.
  - (iii) **Enclosed cockpit.** Persons occupying an enclosed cockpit may substitute a long-sleeved shirt, long pants, shoes, and socks for labeling-specified personal protective equipment.
- (7) **Crop advisors.** Crops advisors entering treated areas while a restricted-entry interval is in effect may wear the personal protective equipment specified on the pesticide labeling for early-entry activities instead of the personal protective equipment specified on the pesticide labeling for handling activities, provided:
  - (i) Application has been completed for at least 4 hours.
  - (ii) Any inhalation exposure level listed in the labeling has been reached or any ventilation criteria established by §170.110(c)(3) or in the labeling have been met.
- (e) **Use of personal protective equipment.**
  - (1) The handler employer shall assure that personal protective equipment is used correctly for its intended purpose and is used according to the manufacturer's instructions.
  - (2) The handler employer shall assure that, before each day of use, all personal protective equipment is inspected for leaks, holes, tears, or worn places, and any damaged equipment is repaired or discarded.
- (f) **Cleaning and maintenance.**
  - (1) The handler employer shall assure that all personal protective equipment is cleaned according to the manufacturer's instructions or pesticide product labeling instructions before each day of reuse. In the absence of any such instructions, it shall be washed thoroughly in detergent and hot water.
  - (2) If any personal protective equipment cannot be cleaned properly, the handler employer shall dispose of the personal protective equipment in accordance with any applicable Federal, State, and local regulations. Coveralls or other absorbent materials that have been drenched or heavily contaminated with an undiluted pesticide that has the signal word DANGER or WARNING on the label shall be not be reused.
  - (3) The handler employer shall assure that contaminated personal protective equipment is kept separately and washed separately from any other clothing or laundry.
  - (4) The handler employer shall assure that all clean personal protective equipment shall be either dried thoroughly before being stored or shall be put in a well ventilated place to dry.
  - (5) The handler employer shall assure that all personal protective equipment is stored separately from personal clothing and apart from pesticide-contaminated areas.
  - (6) The handler employer shall assure that when dust/mist filtering respirators are used, the filters shall be replaced:
    - (i) When breathing resistance becomes excessive.
    - (ii) When the filter element has physical damage or tears.
    - (iii) According to manufacturer's recommendations or pesticide product labeling, whichever is more frequent.
    - (iv) In the absence of any other instructions or indications of service life, at the end of each day's work period.
  - (7) The handler employer shall assure that when gas- or vapor-removing respirators are used, the gas- or vapor-removing canisters or cartridges shall be replaced:

---

*AGRICULTURE - FOOD AND DRUG PROTECTION DIVISION*

---

- (i) At the first indication of odor, taste, or irritation.
- (ii) According to manufacturer's recommendations or pesticide product labeling, whichever is more frequent.
- (iii) In the absence of any other instructions or indications of service life, at the end of each day's work period.
- (8) The handler employer shall inform any person who cleans or launders personal protective equipment:
  - (i) That such equipment may be contaminated with pesticides.
  - (ii) Of the potentially harmful effects of exposure to pesticides.
  - (iii) Of the correct way(s) to clean personal protective equipment and to protect themselves when handling such equipment.
- (9) The handler employer shall assure that handlers have a clean place(s) away from pesticide storage and pesticide use areas where they may:
  - (i) Store personal clothing not in use
  - (ii) Put on personal protective equipment at the start of any exposure period.
  - (iii) Remove personal protective equipment at the end of any exposure period.
- (10) The handler employer shall not allow or direct any handler to wear home or to take home personal protective equipment contaminated with pesticides.
- (g) **Heat-related illness.** When the use of personal protective equipment is specified by the labeling of any pesticide for the handling activity, the handler employer shall assure that no handler is allowed or directed to perform the handling activity unless appropriate measures are taken, if necessary, to prevent heat-related illness.

**§170.250 Decontamination.**

- (a) **Requirement.** During any handling activity, the handler employer shall provide for handlers, in accordance with this section, a decontamination site for washing off pesticides and pesticide residues.
- (b) **General conditions.**
  - (1) The handler employer shall provide handlers with enough water for routine washing, for emergency eye flushing, and for washing the entire body in case of an emergency. At all times when the water is available to handlers, the handler employer shall assure that it is of a quality and temperature that will not cause illness or injury when it contacts the skin or eyes or if it is swallowed.
  - (2) When water stored in a tank is to be used for mixing pesticides, it shall not be used for decontamination or eye flushing, unless the tank is equipped with properly functioning valves or other mechanisms that prevent movement of pesticides into the tank.
  - (3) The handler employer shall provide soap and single-use towels at each decontamination site in quantities sufficient to meet handlers' needs.
  - (4) The handler employer shall provide one clean change of clothing, such as coveralls, at each decontamination site for use in an emergency.
- (c) **Location.** The decontamination site shall be reasonably accessible to and not more than 1/4 mile from each handler during the handling activity.
  - (1) **Exception for mixing sites.** For mixing activities, the decontamination site shall be at the mixing site.
  - (2) **Exception for pilots.** The decontamination site for a pilot who is applying pesticides aerially shall be in the airplane or at the aircraft's loading site.
  - (3) **Exception for handling pesticides in remote areas.** When handling activities are performed more than 1/4 mile from the nearest place of vehicular access:
    - (i) The soap, single-use towels, clean change of clothing, and water may be at the nearest place of vehicular access.
    - (ii) The handler employer may permit handlers to use clean water from springs, streams, lakes, or other sources for decontamination at the remote work site, if such water is more accessible than the water at the decontamination site located at the nearest place of vehicular access.
  - (4) **Decontamination site in treated areas.** The decontamination site shall not be in an area being treated with pesticides or in an area under a restricted-entry



AGRICULTURE - FOOD AND DRUG PROTECTION DIVISION

interval, unless:

- (i) The decontamination site is in the area where the handler is performing handling activities;
  - (ii) The soap, single-use towels, and clean change of clothing are in enclosed containers; and
  - (iii) The water is running tap water or is enclosed in a container.
- (d) **Emergency eye flushing.** To provide for emergency eye flushing, the handler employer shall assure that at least 1 pint of water is immediately available to each handler who is performing tasks for which the pesticide labeling requires protective eyewear. The eye flush water shall be carried by the handler, or shall be on the vehicle or aircraft the handler is using, or shall be otherwise immediately accessible.
- (e) **Decontamination after handling activities.** At the end of any exposure period, the handler employer shall provide at the site where handlers remove personal protective equipment, soap, clean towels, and a sufficient amount of water so that the handlers may wash thoroughly.

[ 57 FR 38151, Aug. 21 1992, as amended at 61 FR 33213, June 26, 1996]

**§170.260 Emergency assistance.**

If there is reason to believe that a person who is or has been employed by an agricultural establishment or commercial pesticide handling establishment to perform pesticide handling tasks has been poisoned or injured by exposure to pesticides as a result of that employment, including, but not limited to, exposures from handling tasks or from application, splash, spill, drift, or pesticide residues, the handler employer shall:

- (a) Make available to that person prompt transportation from the place of employment or the handling site to an appropriate emergency medical facility.
- (b) Provide to that person or to treating medical personnel, promptly upon request, any obtainable information on:
  - (1) Product name, EPA registration number, and active ingredients of any product to which that person might have been exposed.
  - (2) Antidote, first aid, and other medical information from the product labeling.
  - (3) The circumstances of handling of the pesticide.
  - (4) The circumstances of exposure of that person to the pesticide.

[FR Doc.92-20005 Filed 8-19-92; 10:31 am]

**.1806 CROP ADVISOR EXEMPTION**

For the purposes of exemptions contained in Sections 170.104 and 170.204 of the Worker Protection Standard, the following definitions shall be in effect throughout 2 NCAC 9L .1800:

- (1) "Crop Advisor" means any currently certified and licensed "pest control consultant" as defined in G.S. 143-460(27) while engaged in the performance of crop advisor tasks as defined in this Rule and any "pesticide applicator" as defined in G.S. 143-460(29) who is currently certified and licensed in the subcategory "Demonstration Research Pest Control" as defined in 2 NCAC 9L .0504(9), but only while performing or supervising the performance of crop advisor tasks as defined in this Rule.
- (2) "Crop Advisor Tasks" means assessing pest numbers or damage, pesticide distribution, or status or requirements of agricultural plants.

*History Note:* Statutory Authority G.S. 143-458(a);  
Eff. April 1, 1996.

**SECTION .1900 - PESTICIDE STORAGE****.1901 DEFINITIONS**

All specific words or terms used in this Section other than those defined in this Rule shall have the same definitions as shown in the North Carolina Pesticide Law of 1971, G.S. 143-460. The rules contained in this Section shall be deemed to be minimum for storage.

- (1) **Storage.** The act of storing a pesticide or pesticide container unless the pesticide or pesticide container is being transported or used. It does not include:

---

**AGRICULTURE - FOOD AND DRUG PROTECTION DIVISION**

---

- (a) pesticide containers which are empty and triple-rinsed (or equivalent);
- (b) pesticides which meet the requirements of a Resource Conservation and Recovery Act (RCRA) hazardous waste (40 CFR 261.33) and are in the possession of a person possessing a valid EPA RCRA identification number as a generator (40 CFR 261.12) or transporter (40 CFR 263.11) of hazardous waste or who owns or operates a facility for the treatment, storage, or disposal of hazardous waste (40 CFR 264.11);
- (2) Commercial Storage. Storage of a pesticide by any person from the time of manufacture, prior to possession by the end user;
- (3) Storage Facility. Any property or contiguous properties under the same ownership used for commercial storage of pesticides. Multiple storage areas in or on single or contiguous properties under the same ownership are considered to be in the same storage facility;
- (4) Large Storage Facility. Any storage facility that stores 10,000 pounds or more of restricted use pesticides at any time;
- (5) Storage Area. That portion of a storage facility actually used to store pesticides;
- (6) Contingency Plan. "Contingency Plan" shall be a description of a facility's plans and capabilities to deal with a pesticide emergency resulting from operational procedures, accidental releases, fires, or other emergencies. A contingency plan shall be deemed adequate by the North Carolina Pesticide Board if in the opinion of the Board such plan presents reasonable assurances that the facility will be able to contain or otherwise prevent the release of pesticides, to minimize unreasonable adverse effects on public health or the environment.

*History Note: Statutory Authority G.S. 143-437; 143-441; 143-461; 143-466;  
Eff. January 1, 1984;  
Amended Eff. November 1, 1989; November 1, 1988.*

**.1902 STORAGE REQUIREMENTS FOR ALL PESTICIDES**

- (a) The requirements of this Rule shall apply to all pesticides.
- (b) Pesticides shall be stored to prevent leaking and to facilitate inspection.
- (c) Formulated pesticide products shall not be stored in unlabeled containers. The following minimum information shall be shown clearly and prominently on any containers of formulated pesticide:
  - (1) Common chemical name;
  - (2) Percentage of each active ingredient;
  - (3) EPA registration number;
  - (4) Signal word;
  - (5) Use classification (restricted use or general use).
- Pesticide products which are labeled in accordance with the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), the North Carolina Pesticide Law of 1971, and regulations promulgated thereunder shall be deemed to have met the requirements of Paragraph (c) of this Rule.
- (d) Pesticides (formulated products or dilutions) shall not be stored in any food, feed, beverage, or medicine container that has previously been used for such purposes, or that is specifically designed to contain only those products.
- (e) Pesticides shall not be stored in a manner that could cause the contamination of foods, feeds, beverages, eating utensils, tobacco, tobacco products, other pesticides, seeds, or fertilizers, or otherwise likely to result in accidental ingestion by humans or domestic animals.
- (f) Pesticides shall be stored in accordance with the following:
  - (1) storage recommendations, if any, on their labeling; and
  - (2) labeling on all other products, including non-pesticide products, held in the same storage area.
- (g) When unattended, pesticides shall be stored to prevent unauthorized access.
- (h) Pesticides shall be stored in an area that is dry (does not accumulate water) and ventilated.
- (i) Pesticide storage areas shall be free of combustible materials such as gasoline, kerosene, or petroleum solvents other than those associated with pesticide application and debris



AGRICULTURE - FOOD AND DRUG PROTECTION DIVISION

such as waste paper, rags, or used cardboard boxes which may provide an ignition source, and shall be separated from other operations which present a fire hazard such as welding or burning. Appropriate care shall be taken to minimize fire hazard potential when providing supplemental heating to storage during winter months.

*History Note:* Statutory Authority G.S. 143-437; 143-441; 143-461; 143-466;  
Eff. January 1, 1984;  
Amended Eff. November 1, 1989.

**.1903 COMMERCIAL STORAGE: RESTRICTED USE PESTICIDES**

*History Note:* Statutory Authority G.S. 143-437; 143-440 through 143-443; 143-447;  
143-461; 143-466;  
Eff. January 1, 1984;  
Repealed Eff. November 1, 1988.

**.1904 NOTIFICATION REQUIREMENTS: RESTRICTED USE PESTICIDES**

- (a) Any person providing 10,000 pounds or more of restricted use pesticides to a storage facility in North Carolina in a single calendar year shall notify the Board annually of all such delivery locations unless the product is delivered to a pesticide dealer.
- (b) The notification shall include:
  - (1) name of the person responsible for or assuming ownership or possession of the pesticide;
  - (2) name, address, and telephone number at the storage area or facility;
  - (3) name, address, and telephone number of the registrant's emergency contact for technical information.
- (c) The North Carolina Pesticide Board shall, upon receipt of the information provided in Paragraph (b) of this Rule, notify the operator of the storage facility that prefire and contingency plans as required in Rules .1905 and .1906 of this Subchapter shall be developed for the facility and shall provide the operator with required forms and explanations. The Board shall also provide the phone number of the secretary or designated alternate to which emergency reports can be filed.

*History Note:* Statutory Authority G.S. 143-437; 143-441; 143-461; 143-466;  
Eff. January 1, 1984;  
Amended Eff. November 1, 1989.

**.1905 STORAGE FACILITY REQUIREMENTS: RUP**

- (a) In addition to the Storage Requirements for All Pesticides as set forth in Rule .1902 of this Subchapter, the requirements of this Rule shall apply to any quantity of restricted use pesticides in commercial storage.
- (b) Storage areas shall utilize security precautions that prevent unauthorized access to pesticides. As a minimum, non-display pesticide storage areas shall be locked when unattended. A warning sign shall be posted beside all entrances to non-display pesticide storage areas stating "PESTICIDE STORAGE," "AUTHORIZED PERSONNEL ONLY," "IN CASE OF EMERGENCY CALL \_\_\_\_\_."
- (c) Pesticide spills shall be cleaned up immediately with regard to personnel safety. Floor-sweeping compounds such as adsorptive clay, sand, sawdust, lime, or similar suitable materials shall be kept on hand to absorb spills or leaks. Safe disposal techniques shall be employed when disposing of pesticide contaminated adsorptive materials.
- (d) Pesticides shall be stored to prevent contact with water resulting from area cleanup, the intrusion of storm waters, leaks, or impounded or flowing waters, or any other source which represents a likely potential for flooding.
- (e) Pesticides shall not be stored within 100 feet horizontally of a public water supply. Pesticides shall not be stored within 50 feet horizontally of a private water supply. An exemption from the requirements of this part may be granted by the Board upon receipt of special written request for such exemption from the owner or operator of a storage facility. Each request must describe existing conditions requiring such exemption.
- (f) The person responsible for each pesticide storage facility shall also be responsible for the following:

---

**AGRICULTURE - FOOD AND DRUG PROTECTION DIVISION**

---

- (1) compliance with all appropriate state and local fire codes and building codes and with all applicable state environmental laws and regulations;
- (2) development of a prefire plan for the storage facility. Such plan shall be a description of the facility's plans and procedures for management of fires involving pesticides. A suggested prefire plan format is the publication, "Pre-Planning and Guidelines for Handling Agricultural Fires," reprinted by the National Agricultural Chemicals Association:
  - (A) one copy of the plan approved by the fire department and/or emergency services office having jurisdiction shall be maintained in the office of the storage facility for inspection by the Board;
  - (B) one copy of the plan shall be filed with the fire department and/or emergency services office having jurisdiction;
  - (C) a request shall be made in writing to the local fire department and/or emergency services office having jurisdiction for no less than an annual inspection of the facility.
- (g) The person responsible for the storage facility shall upon discovery of any emergency such as a fire, spill, or unintended release of pesticides into the environment from the facility, immediately notify the secretary of the Board or designated alternate if such emergency poses a hazard or imminent danger to man, animals, aquatic life, or threat of substantial damage to property. Such notification of the secretary does not preclude notification being given to the appropriate local fire department, emergency services office, or other state or federal agencies requiring such notification.
- (h) Any person operating a storage facility shall maintain a current inventory list of the kinds of stored pesticides by brand name and formulation. An inventory list shall be considered current if it is updated every 30 days. A copy of this list shall be maintained in a separate location from the storage facility. This list shall be made available to the Board or its agents upon request.
- (i) Pesticide applicators storing restricted use pesticides shall be subject to the same requirements as set forth in this Rule.

*History Note:* Statutory Authority G.S. 143-437; 143-441; 143-461; 143-466;  
Eff. January 1, 1984;  
Amended Eff. November 1, 1989.

**.1906 LARGE STORAGE FACILITY REQUIREMENTS: RUP**

- (a) In addition to the Storage Facility Requirements: RUP as set forth in Rule .1905 of this Subchapter, the requirements of this Rule shall apply to large storage facilities.
- (b) Pesticides shall not be stored within 200 feet of the property line of any schools, hospitals, nursing homes, or other institutional facilities.
- (c) The person responsible for a large storage facility shall have a board-approved contingency plan (FORM PC-417) for the facility. The contingency plan shall be submitted to the Board in sufficient detail so that the Board can determine if the plan is adequate.
- (d) Pesticide applicators storing 10,000 pounds or more of restricted use pesticides shall be subject to the same requirements as set forth in this Rule.

*History Note:* Statutory Authority G.S. 143-437; 143-441; 143-461; 143-466;  
Eff. January 1, 1984;  
Amended Eff. November 1, 1989.

**.1907 PURPOSE AND IMPLEMENTATION OF CONTINGENCY PLAN**

- (a) The contingency plan shall be designed to minimize hazards to human health or the environment from fires, explosions, spills, or any other unplanned sudden or non-sudden release of pesticides or pesticide contaminated materials to air, soil, or surface water.
- (b) The provisions of this plan shall be carried out immediately whenever there is a fire, explosion, spill, or other release of pesticides or pesticide contaminated materials which could threaten human health or the environment.

*History Note:* Statutory Authority G.S. 143-437; 143-441; 143-461; 143-466;  
Eff. January 1, 1984;  
Amended Eff. November 1, 1989.



AGRICULTURE - FOOD AND DRUG PROTECTION DIVISION**.1908 CONTENT OF CONTINGENCY PLAN**

- (a) The contingency plan shall describe the actions facility personnel shall take to respond to fires, explosions, spills, or any other sudden or non-sudden release of pesticides or pesticide contaminated materials to air, soil, or surface water at the facility.
- (b) Where appropriate, the plan shall describe arrangements agreed to by local police departments, fire departments, hospitals, contractors, and state and local emergency response teams to coordinate emergency services.
- (c) The plan shall list names, addresses, and phone numbers (office and home) of all persons qualified to act as alternates who can be reached at any time of the day, seven days a week, and who are thoroughly knowledgeable of the facility, including operational and emergency procedures. Where more than one person is listed, one shall be named as primary alternate, and others shall be listed in the order in which they will assume responsibility as alternates.
- (d) The plan shall include any additional information deemed necessary by the Board and specified on Contingency Plan for Pesticide Storage FORM PC-417.

*History Note: Statutory Authority G.S. 143-437; 143-440; 143-441; 143-461; 143-466;  
Eff. January 1, 1984.*

**.1909 COPIES OF CONTINGENCY PLAN**

A copy of the contingency plan and all revisions to the plan shall be:

- (1) maintained at the facility; and
- (2) submitted to the North Carolina Pesticide Board in care of the North Carolina Department of Agriculture, Pesticide Section.

*History Note: Statutory Authority G.S. 143-437; 143-440; 143-441; 143-461; 143-466;  
Eff. January 1, 1984.*

**.1910 REVIEW AND RETURN OF CONTINGENCY PLAN**

- (a) If the contingency plan is submitted in insufficient detail so that the Board, through its review of the plan, cannot make a determination as to the adequacy of the plan, the plan shall be returned to the large storage facility with a designation of areas that need further detail or clarification.
- (b) A person shall resubmit FORM PC-417 in sufficient detail within 60 days after receipt of notification by the Board that additional detail or clarification is required in the form.

*History Note: Statutory Authority G.S. 143-437; 143-441; 143-461; 143-466;  
Eff. January 1, 1984;  
Amended Eff. November 1, 1989.*

**.1911 AMENDMENT OF CONTINGENCY PLAN**

The contingency plan shall be reviewed and immediately amended and resubmitted to the Board, if necessary, whenever:

- (1) the plan fails in an emergency;
- (2) the facility changes — in its design, construction, operation, or maintenance;
- (3) the list of alternate changes; or
- (4) the list of emergency equipment changes.

*History Note: Statutory Authority G.S. 143-437; 143-441; 143-461; 143-466;  
Eff. January 1, 1984;  
Amended Eff. November 1, 1989.*

**.1912 COMMERCIAL PESTICIDE APPL STORAGE REQ: RUP**

*History Note: Statutory Authority G.S. 143-437; 143-440; 143-441; 143-461; 143-466;  
Eff. January 1, 1984;  
Repealed Eff. November 1, 1989.*

**.1913 EFFECTIVE DATE OF STORAGE REGULATION**

These Rules shall become effective January 1, 1984. These Rules shall be in force and

---

**AGRICULTURE - FOOD AND DRUG PROTECTION DIVISION**

---

binding on all existing or future pesticide storage facilities.

*History Note: Statutory Authority G.S. 143-441; 143-461;  
Eff. January 1, 1984.*

**SECTION .2000 - CHEMIGATION****.2001 DEFINITIONS**

All specific words or terms used in this Section shall have the same definitions as shown in the North Carolina Pesticide Law of 1971, G.S. 143-460, or unless the context otherwise requires, other definitions shall be:

- (1) Antisiphon Device. Any equipment that prevents the backflow of a pesticide into any water supply or the backflow of water into a pesticide supply. Antisiphon devices include automatic low pressure drain, check valve, flow interrupter, and vacuum relief valve.
- (2) Automatic Low Pressure Drain. A self-activating device to drain that portion of an irrigation pipeline whose contents could potentially enter the water supply when operation of the irrigation system pumping plant fails or is shut down.
- (3) Check Valve. A device to provide a positive closure of an irrigation pipeline or pesticide injection line that effectively prohibits the flow of pesticide or water in the opposite direction of that desired when operation of the irrigation system pumping plant or pesticide injection unit fails or is shut down.
- (4) Chemigation. Any process whereby pesticides are applied to land, crops, and/or plants utilizing an irrigation system. Some examples are agricultural, nursery, turf, lawn, golf course, and greenhouse sites.
- (5) Chemigation and/or Irrigation Water Supplies. Any source of water that is used for chemigation and/or irrigation to include private wells, public water systems, ground or surface water sources.
- (6) Flow Interrupter. A device that provides positive interruption or cessation of pesticide or water flow in either direction upon pesticide injection unit shutdown or failure.
- (7) Functional Systems Interlock. A system used to link irrigation pumps and pesticide injection units, other pumps or supply tanks so designed that in the event of irrigation pump malfunction or failure, shutdown of the pesticide injection units will occur.
- (8) Inspection Port. A place on the irrigation pipeline that can be utilized to determine visually if the check valve leaks.
- (9) Irrigation. The act of mechanically supplying water to land, crops and/or plants.
- (10) Irrigation System. Any device or combination of devices having hose, pipe or other conduit which connects directly to any water supply. The term does not include any handheld hose-end sprayer which is constructed so that an interruption in water flow automatically prevents any backflow to the water supply.
- (11) Public Water System
  - (a) A system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year. Such term includes:
    - (i) any collection, treatment, storage, and distribution facility under control of the operator of such system and used primarily in connection with such system; and
    - (ii) any collection or pre-treatment storage facility not under such control which is used primarily in connection with such system.
  - (b) It is either a "community water system" or a "non-community water system":
    - (i) Community Water System. A public water system which serves at least 15 service connections or regularly serves at least 25 year-round residents.
    - (ii) Non-Community Water System. A public water system which is not a community water system.
- (12) Vacuum Relief Valve. A device to automatically relieve or break vacuum in an irrigation pipeline.

*History Note: Statutory Authority G.S. 143-463; 143-466;*



**AGRICULTURE - FOOD AND DRUG PROTECTION DIVISION**

---

*Eff. January 1, 1987.***.2002 APPLICATION OF PESTICIDES THROUGH IRRIGATION SYSTEMS**

- (a) These systems shall be fitted with effective antisiphon devices and a functional systems interlock that will prevent the backflow of pesticide or pesticide-water mixtures into water supplies or the backflow of water or pesticide-water mixtures into pesticide supplies during times of irrigation system failure or equipment shutdown. If a public water system is being utilized as the water source, the chemigation system shall not be connected directly to it. See requirements in Rule .2003 of this Section.
- (b) Pesticides shall not be injected into an irrigation system on the suction side of the irrigation pump.
- (c) Such safety devices or valves shall be installed between:
  - (1) the irrigation system pump discharge and the point of pesticide injection into the irrigation system, and
  - (2) the point of pesticide injection into the irrigation system and the pesticide tank or container in accordance with Rule .2002(d).
- (d) Such systems shall effectively meet the following criteria:
  - (1) double check valves shall be located between the irrigation pump discharge and the point of pesticide injection into the irrigation pipeline. These valves, when installed, shall be on a horizontal plane and level. A deviation of not more than 10 degrees from the horizontal shall be set.
  - (2) an inspection port shall be located between the irrigation pump discharge and the mainline check valves. In many cases, the vacuum relief valve connection can serve as the inspection port.
  - (3) a vacuum relief valve shall be located on the top of the horizontal irrigation pipeline between the discharge side of the irrigation pump and the inlet side of the double check valves. The vacuum relief valve shall have an orifice size of at least 3/4 inch for a 4-inch diameter irrigation pipe. The orifice size shall increase proportionally to an increase in irrigation pipe diameter.
  - (4) an automatic low pressure drain shall be located on the bottom of the horizontal irrigation pipeline between the discharge side of the irrigation pump and the inlet side of the double check valves. Such device shall be level and have an orifice size of at least 3/4 inch for a 4-inch diameter irrigation pipe. The orifice size shall increase proportionally to an increase in irrigation pipe diameter. The drain shall not extend beyond the inside surface of the bottom of the irrigation pipeline and shall be at least two inches above grade. The automatic low pressure drain shall discharge at least 20 feet from any water supply. The discharge from the drain shall be controlled to prevent the drainage from reentering the water supply.
  - (5) a flow interrupter device shall be located in the pesticide supply line between the pesticide injection unit and the pesticide supply tank or container. A normally closed solenoid-operated valve or other similar device is an acceptable method to positively prevent flow of pesticide or water in either direction during pesticide injection system failure or shutdown.
  - (6) a check valve shall be located on the pesticide injection line between the point of pesticide injection into the irrigation system and the pesticide injection unit to prevent the overflow of the pesticide supply tank or container.
  - (7) a functional systems interlock shall be provided. If interruption of the irrigation water flow occurs, the interlock must, at a minimum, cause the shutdown of the pesticide injection unit. If the irrigation pump and pesticide injection unit are at different sites, a low pressure cutoff, located near the point of pesticide injection into the irrigation system, could be electrically connected to the pesticide injection unit to provide for its shutdown in the event of low water pressure.

*History Note: Statutory Authority G.S. 143-463; 143-466;  
Eff. January 1, 1987.*

**.2003 PROHIBITION OF CONNECTION TO A PUBLIC WATER SYSTEM**

- (a) An irrigation system used for pesticide application shall not be connected directly to a public water system.

---

**AGRICULTURE - FOOD AND DRUG PROTECTION DIVISION**

---

- (b) The water from a public water system must be discharged into a reservoir tank.
- (c) There shall be a complete physical break (air gap) between the outlet end of the fill pipe and the top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe.

*History Note: Statutory Authority G.S. 143-463; 143-466;  
Eff. January 1, 1987.*

**.2004 INSPECTION: INSTALLATION: MAINTENANCE AND MODIFICATIONS**

- (a) Antisiphon devices and a functional systems interlock, used for chemigation purposes, shall be installed and maintained to ensure proper function during chemigation.
- (b) During periods of chemigation, the system operator shall inspect the antisiphon devices and the functional systems interlock to ensure that they are functioning properly.
- (c) If modifications or changes in design, technology, irrigation practices or other similar reasons warrant the use or placement of equipment in lieu of that specified herein, the Pesticide Board may allow for such changes in advance of use, provided protection to the water supply is at least equal to that provided by the equipment, or placement thereof, required in this regulation.
- (d) Inspections of an irrigation system utilized for chemigation may be made at any time by a representative of the Pesticide Section, North Carolina Department of Agriculture. Whenever any such equipment is determined not to be in compliance with this Section, the owner or operator shall be issued a stop use order, and the equipment shall not be used for the purpose of applying pesticide(s) until such time as proper repairs and/or alterations are made and the stop use order is released by official notice from the North Carolina Department of Agriculture.

*History Note: Statutory Authority G.S. 143-463; 143-466;  
Eff. January 1, 1987.*

**SECTION .2100 - HEARING RULES OF THE NORTH CAROLINA  
PESTICIDE BOARD****.2101 NOTICE OF HEARING: ANSWER**

- (a) The contents and manner of service of notice of hearing in a contested case shall be as prescribed in G.S. 150B-38(b) and (c).
- (b) Any party who has been served with notice of hearing may file a written response as prescribed in G.S. 150B-38(d).

*History Note: Statutory Authority G.S. 143-437; 150B-38;  
Eff. February 1, 1992.*

**.2102 RIGHT TO HEARING**

- (a) Contested Cases. Disciplinary proceedings to enforce the provisions of North Carolina Pesticide Law of 1971 and 2 NCAC 9L are deemed to be "contested cases" within the meaning of G.S. 150B-2, and any person subject to such proceedings shall be given notice and the opportunity to be heard.
- (b) Summary Suspension. Nothing within Paragraph (a) of this Rule shall abridge the right of the Board to summarily suspend a license or certification prior to hearing pursuant to G.S. 150B-3(c).

*History Note: Statutory Authority G.S. 143-437; 150B-38;  
Eff. February 1, 1992.*

**.2103 LOCATION OF HEARING**

The location of the hearing in a contested case shall be as prescribed in G.S. 150B-38(e).

*History Note: Statutory Authority G.S. 143-437; 150B-38;  
Eff. February 1, 1992.*

**.2104 INTERVENTION; DISCOVERY**

- (a) The intervention of persons not initially parties to a contested case is governed by G.S. 150B-38(f). Petitions or motions to intervene must be in writing. The Board shall



**AGRICULTURE - FOOD AND DRUG PROTECTION DIVISION**

---

promptly determine whether to grant or deny intervention and shall so notify the petitioner and all parties in writing.

- (b) Parties in a contested case may engage in discovery pursuant to the provisions of the Rules of Civil Procedure, G.S. 1A-1.

*History Note: Statutory Authority G.S. 143-437; 150B-38; 150B-39;  
Eff. February 1, 1992.*

**.2105 SUBPOENAS**

The authority of the Board to issue or revoke subpoenas in preparation for, or in the conduct of, contested cases is governed by G.S. 150B-39. If a subpoena is issued at the request of a party and not on the Board's own motion, that party shall bear the cost of service.

*History Note: Statutory Authority G.S. 143-437; 150B-38;  
Eff. February 1, 1992.*

**.2106 CONDUCT OF HEARING**

- (a) Hearings in contested cases shall be conducted by a majority of the Board. The chairman shall serve as presiding officer unless he is absent or disqualified, in which case the vice-chairman shall preside. Hearings shall be conducted as prescribed in G.S. 150B-40.
- (b) Disqualification. An affidavit seeking disqualification of any Board member, if filed in good faith and in a timely manner, will be ruled on by the remaining members of the Board. An affidavit is considered timely if it is filed:
  - (1) Prior to the hearing; or
  - (2) As soon after the commencement of the hearing as the affiant becomes aware of facts which give rise to his belief that a Board member should be disqualified.
- (c) Evidence. The admission of evidence in a hearing in a contested case shall be as prescribed in G.S. 150B-41.

*History Note: Statutory Authority G.S. 143-437; 150B-38;  
Eff. February 1, 1992.*

**.2107 DECISION OF BOARD**

- (a) The form and content of the Board's decision in a contested case shall be as prescribed by G.S. 150B-42(a), and its decision shall be served upon the parties in a manner consistent with said statute.
- (b) The official record of the hearing in a contested case shall contain those items specified in G.S. 150B-42(b).

*History Note: Statutory Authority G.S. 143-437; 150B-38;  
Eff. February 1, 1992.*

### **North Carolina Pesticide Board**

The North Carolina Pesticide Board is a seven-member, governor-appointed Board charged with the duty of governing pesticide management and control as set forth in the North Carolina Pesticide Law of 1971. The members represent different sectors of the regulated public. Members are appointed from the North Carolina Department of Agriculture & Consumer Services (1), the Department of the Environment and Natural Resources (2) [the State Health Director or the State Health Director designee and an individual representing an environmental protection agency], the agrichemical industry (1), the farm population (1), nongovernmental conservationists (1), and an at-large member representing the general public.

The Board adopts rules and regulations and makes policies for the programs outlined in the NC Pesticide Law of 1971. Board members serve staggered four year terms. Appointments to fill vacancies in the Board are of individuals having the same credentials as the predecessor.

### **The Pesticide Advisory Committee**

The North Carolina Pesticide Law of 1971 establishes a twenty-member Pesticide Advisory Committee to advise the NC Pesticide Board on technical questions and on the development of rules and regulations. The Advisory Committee is composed of three practicing farmers, one conservationist (at-large), one ecologist (at-large), one pesticide industry representative, one agribusiness representative (at-large), one local health director, three members of the North Carolina State University College of Agriculture and Life Sciences, one member from the North Carolina Department of Agriculture & Consumer Services, one member from the Department of Environment and Natural Resources, the State Health Director, one representative of a public utility or railroad which uses pesticides, one member from the Board of Transportation, one member from the North Carolina Aviation Association, one member of the general public (at-large), one member actively engaging in forest pest management, and one member representing the Division of Solid Waste Management of the Department of Environment and Natural Resources. Members of the committee serve at the pleasure of the Board.



# Official Analyses of Pesticides 1998

A summary of pesticides analyzed and the results of samples determined to be at variance from the guarantee are tabulated in the following pages. For the reader's ready interpretation of the report, those designations used are explained in the following paragraphs.

"ADULTERATED" indicates that quantities of undeclared active ingredients were present above established tolerances. Such lots, batches or brands are stopped from sale and other appropriate action taken.

"DEFICIENT" signifies that one or more ingredients fell significantly below the guarantee. Such products are placed under "Stop Sale Order" and are removed from the market for reprocessing or relabeling.

"EXCESSIVE ACTIVE INGREDIENT" indicates a significant excess of one or more active ingredients. Such formulations could be harmful to the user and/or result in excessive residues.

"MISBRANDED" signifies that labeling failed to conform to requirements. Omission of some item or statement is a more common flaw. Among these may be proper ingredient listing, skull and crossbones, "Poison" in red and antidote where these are required; net contents by weight or volume; class of, and unsulfonated residues of petroleum oils; and percentages of alkaloids instead of crude product such as sabadilla seed.

In some instances of misbranding, the defect appeared to be inadvertent and of a minor nature. In others, removal from sale is necessary.

"NOT REGISTERED" signifies that the product was not registered at the time it was sampled. Any such product is required to be registered prior to release from "Stop Sale Order." A delinquent registration penalty is also assessed against the manufacturer.

As has been the practice in past work, analyses were made largely for those ingredients which were considered of major importance, as, for example, methyl parathion, whereas the related compounds were not checked. For sake of brevity, active ingredients not checked are not listed in Table II. This should not be taken to indicate that manufacturers did not include them on labels. This procedure has been followed because it enables a broader coverage of all products offered for sale.

**Table I — Pesticides Examined, 1998**

This section presents in table form an alphabetical listing of the manufacturer of the pesticides that were sampled and analyzed in the Department's laboratories in 1998. Results of the analyses are tabulated and total numbers of each determination made are at the end of the table.

Name and Address of Company	SAMPLES					
	Analyzed	Adulterated	Deficient	Excessive Active Ingredient	Mis-branded	Not Registered
AV Laboratory, Inc. Miami, FL .....	1	-	-	-	-	-
AgrEvo Environmental Health Montvale, NJ .....	20	-	-	-	-	-
AgrEvo USA Company Wilmington, DE .....	11	-	-	-	-	-
Agri Laboratories, LTD St. Joseph, MO .....	1	-	-	-	-	-
Air Guard Control, Inc. Concord Ontario, CN .....	2	-	-	-	-	-
Airex Laboratories c/o Bullen Chemical Folcroft, PA .....	3	-	1	-	-	-
Albaugh, Inc. Ankeny, IA .....	8	-	-	-	-	-
Alley Company, Dale Greeley, CO .....	1	-	-	-	-	-
Alliance Packaging Inc. Covington, LA .....	2	-	-	-	-	-
Alljack / Div. of United Industries St. Louis, MO .....	17	-	2	-	-	-
American Cyanamid Company Princeton, NJ .....	4	-	-	-	-	-
American Heritage / Speer Products Memphis, TN .....	4	-	-	-	-	-
American Research Memphis, TN .....	3	-	-	-	-	-
Amrep, Inc. Marietta, GA .....	3	-	-	-	-	-
Anderson Company, James H. Raleigh, NC .....	5	-	1	-	-	-
Applied Biochemists, Inc. Milwaukee, WI .....	1	-	-	-	-	-
Aquarium Pharmaceuticals, Inc. Chalfont, PA .....	2	-	-	-	-	-
Asepsis, Inc. Avondale Est., GA .....	1	-	-	-	-	-
Astor Products Inc. Jacksonville, FL .....	1	-	-	-	-	-
Astoria-Pacific, Inc. Clackamas, OR .....	1	-	-	-	-	-
Austin Company, James Mars, PA .....	3	-	-	-	-	-
Bacon Products Company Chattanooga, TN .....	8	-	-	-	-	-
BASF Corporation Res. Triangle Park, NC .....	31	-	-	-	-	-
Bayer Corporation / Agri Division Kansas City, MO .....	7	-	-	-	-	-
Bayer Corporation / Animal Health Kansas City, MO .....	3	-	-	-	-	-
Baytech Chemical Company Clearwater, FL .....	7	-	2	-	-	-
Beaumont Products, Inc. Kennesaw, GA .....	1	-	-	-	-	-
Bengal Chemical, Inc. Baton Rouge, LA .....	6	-	-	-	-	-
Betco Corporation Toledo, OH .....	8	-	-	-	-	-
Bio-Derm Laboratories, Inc. Longview, TX .....	3	-	-	-	-	-



**Table I – Pesticides Examined, 1998 (Continued)**

Name and Address of Company	SAMPLES					
	Analyzed	Adulterated	Deficient	Excessive Active Ingredient	Mis-branded	Not Registered
Bio-Lab, Inc Decatur, GA .....	2	-	-	-	-	-
Biosentry, Inc Stone Mtn., GA .....	2	-	-	-	-	-
Black Flag c/o Clorox Company Pleasanton, CA .....	2	-	-	-	-	-
Black Leaf c/o Sureco, Inc Raleigh, NC .....	6	-	1	-	-	-
Boehringer Ingeheim Vetm St. Joseph, MO .....	5	-	1	-	-	-
Bonide Chemical Co. Inc Yorkville, NY .....	20	-	2	-	-	2
Bradco Enterprises Greenville, SC .....	1	-	-	-	-	-
Brittany Supply, Inc Candler, NC .....	4	-	2	-	-	-
Buckeye International Maryland Hts., MO .....	7	-	3	-	-	-
Butcher Company, The Marlborough, MA .....	8	-	8	-	-	-
C & C Chemical Company, Inc Asheville, NC .....	1	-	-	-	-	-
Cape Fear Chemicals, Inc Elizabethtown, NC .....	29	12	14	-	-	3
Carroll Company Garland, TX .....	16	-	1	-	-	-
Carter Wallace, Inc Cranbury, NJ .....	4	-	-	-	-	-
Cedar Chemical Company Memphis, TN .....	3	-	-	-	-	-
Celex / Div. of United Industries St. Louis, MO .....	14	-	-	-	-	-
Champion Supply, Inc Arden, NC .....	1	-	1	-	-	-
Changing Paradigms West Chester, OH .....	2	-	-	-	-	-
Chase Products Co Maywood, IL .....	15	-	-	-	-	-
Chem Nut Inc Albany, GA .....	3	-	-	-	-	-
Chem-Tec, Inc Winston-Salem, NC .....	8	-	1	-	-	-
Chemical Service of Philadelphia Philadelphia, PA .....	1	-	-	-	-	-
Cheminova Agro ALS Wayne, NJ .....	2	-	-	-	-	-
Chemsico St. Louis, MO .....	51	-	1	-	-	-
Claire Manufacturing Company Addison, IL .....	4	-	-	-	-	-
Clean Control Corporation Warner Robins, GA .....	1	-	-	-	-	-
Cleaning Solutions Group Hvve De Grace, MD .....	36	-	-	-	-	3
Cleary Chemical Corp., W.A Dayton, NJ .....	4	-	-	-	-	-
Clorox Company, The Pleasanton, CA .....	24	-	-	-	-	-
Coastal Chemical Corporation Greenville, NC .....	1	-	-	-	-	-

**Table I — Pesticides Examined, 1998 (Continued)**

Name and Address of Company	SAMPLES				
	Analyzed	Adulterated	Deficient	Excessive Active Ingredient	Mis-branded Not Registered
Cochran Corporation, The					
Memphis, TN .....	1	-	-	-	-
Cooper's Best / Alchemists					
Athens, GA .....	3	-	-	-	-
Cut Heal Animal Care Products, Inc					
Cedar Hill, TX .....	1	-	-	-	-
D & D Chemical, Inc					
Grifton, NC .....	1	-	-	-	-
Dayton Hudson / Trico Solution					
Eau Claire, WI .....	1	-	-	-	-
Dexol Industries					
Bloomington, MN .....	10	-	-	-	-
Dial Corporation, The					
Scottsdale, AZ .....	2	-	-	-	-
Dionne Products c/o Qualis, Inc					
Des Moines, IA .....	1	-	-	-	-
Diversey Corporation, The					
Cincinnati, OH .....	2	-	-	-	-
Diversey Water Technologies, Inc					
Chagrin Falls, OH .....	3	-	-	-	-
Dolgen Corporation Inc					
Scottsville, KY .....	3	-	-	-	-
Dow Agrosciences LLC					
Indianapolis, IN .....	19	-	-	-	-
Dowbrands LP/ SC Johnson					
Racine, WI .....	12	-	-	-	-
Dragon Corporation					
Roanoke, VA .....	87	-	13	-	-
Drew Industries/ Ashland Chemical Co					
Boonton, NJ .....	5	-	-	-	-
Drexel Chemical Company					
Memphis, TN .....	16	-	-	-	-
Dupont de Nemours and Company, E.I					
Wilmington, DE .....	10	-	-	-	-
Durvet Inc					
Blue Springs, MO .....	1	-	-	-	1
DVM Pharmaceuticals					
Miami, FL .....	3	-	-	-	-
Dymon, Inc					
Olathe, KS .....	1	-	1	-	-
Easy Gardener					
Waco, TX .....	2	-	-	-	-
Eaton & Company, Inc., J.T					
Twinsburg, OH .....	1	-	-	-	-
Ecolab, Inc					
St. Paul, MN .....	7	-	1	-	-
Edwards - Councilor Company, Inc					
Virginia Beach, VA .....	1	-	-	-	-
Eight In One Pet Products, Inc					
Hauppauge, NY .....	1	-	-	-	-
Elco Laboratories/Sears Roebuck & Co					
University Park, IL .....	1	-	-	-	-
Elite Pet Products					
Margate, FL .....	2	-	-	-	-
Enforcer Products, Inc					
Cartersville, GA .....	37	-	-	-	-
Envirochem, Inc					
Jersey City, NJ .....	1	-	-	-	-
Erbrich Products Company, Inc					
Indianapolis, IN .....	1	-	-	-	-



**Table I – Pesticides Examined, 1998 (Continued)**

Name and Address of Company	SAMPLES					
	Analyzed	Adulterated	Deficient	Excessive Active Ingredient	Mis-branded	Not Registered
Essential Industries, Inc						
Merton, WI .....	2	-	-	-	-	-
ETS, Inc						
Indianapolis, IN .....	1	-	-	-	-	-
Exsel Industries, Inc						
Greenville, NC .....	3	-	-	-	-	-
Fair Products, Inc						
Cary, NC .....	2	-	-	-	-	-
Farnam Companies, Inc						
Phoenix, AZ .....	22	-	2	-	-	1
Floors & Courts, Inc						
Kinston, NC .....	10	1	-	-	-	-
FMC Corporation / Ag Products Group						
Philadelphia, PA .....	16	-	-	-	-	-
Fort Dodge Labs, Inc						
Fort Dodge, IA .....	2	-	-	-	-	-
Four Paws Products LTD						
Hauppauge, NY .....	8	-	-	-	-	-
FrancoDex Laboratories						
Fortworth, TX .....	8	-	-	-	-	-
Fresh Products						
Toledo, OH .....	4	2	1	-	-	-
GB Bioscience c/o Zeneca						
Wilmington, DE .....	4	-	-	-	-	-
Georgia Gulf Sulphur Company						
Bainbridge, GA .....	1	-	-	-	-	-
GLB Pool & Spa / Laporte TE						
Milwaukee, WI .....	3	-	-	-	-	-
Glo- Marr Products, Inc						
Lawrenceburg, KY .....	1	-	-	-	-	1
Gowan Company						
Yuma, AZ .....	1	-	-	-	-	-
Green Light Company						
San Antonio, TX .....	15	-	5	-	-	-
Greer Janitorial & Maintenance Supply						
Lenoir, NC .....	1	-	-	-	-	-
Griffin Corporation LLC						
Valdosta, GA .....	13	-	-	-	-	-
Gro-Tec, Inc						
Covington, GA .....	24	-	2	-	-	1
Gustafson, Inc						
Dallas, TX .....	3	-	-	-	-	-
H.B. Group, Inc						
Red Springs, NC .....	1	-	-	-	-	-
H & H. Products, Inc						
Dunn, NC .....	1	-	1	-	-	-
Haco, Inc						
Greeley, CO .....	4	-	-	-	-	-
Happy Jack, Inc						
Snow Hill, NC .....	13	-	-	-	-	-
Hartz Mountain Corporation						
Secaucus, NJ .....	11	-	-	-	-	-
Heartland Corporation						
Olathe, KS .....	1	-	1	-	-	-
Helena Chemical Company						
Memphis, TN .....	2	-	-	-	-	-
Hess & Clark, Inc						
Greeley, CO .....	1	-	-	-	-	-
Hillyard, Inc						
St. Joseph, MO .....	4	-	-	-	-	-

**Table I — Pesticides Examined, 1998 (Continued)**

Name and Address of Company	SAMPLES					
	Analyzed	Adulterated	Deficient	Excessive Active Ingredient	Mis-branded	Not Registered
Holmes Products Corporation						
Milford, MA .....	1	-	-	-	-	-
Honeywell, Inc.						
Southborough, MA .....	1	-	-	-	-	-
Horseman's Dream, Inc.						
Fortworth, TX .....	1	-	-	-	-	-
Household / Reckitt & Colman						
Wayne, NJ .....	8	-	-	-	-	-
Hydrox Laboratories						
Elgin, IL .....	1	-	-	-	-	-
Hysan / Div. Spec Chemical Research						
Macedonia, OH .....	1	-	-	-	-	-
ICI America's Inc.						
Charlotte, NC .....	-	-	-	-	-	-
Image Supply, Inc.						
Lumberton, NC .....	7	-	-	-	-	-
Insc0, Inc.						
Wilson, NC .....	3	-	-	-	-	-
Insecta Sales & Research						
Oakland Park, FL .....	3	-	-	-	-	-
Intercon Chemical Company						
St. Louis, MD .....	2	-	-	-	-	-
ISK Biocides, Inc.						
Memphis, TN .....	2	-	-	-	-	-
Johnson & Son, Inc., S.C.						
Racine, WI .....	9	-	-	-	-	-
Johnson's Enterprises, Inc., Howard						
Milwaukee, WI .....	1	-	-	-	-	-
Jones Company, Inc. Wade						
Lowell, A .....	5	-	1	-	-	-
Jomaps Company, The						
Alpharetta, GA .....	1	-	-	-	-	-
King Research, Inc						
Brooklyn, NY .....	2	-	-	-	-	-
Kittrich Corporation						
Dallas, TX .....	1	-	-	-	-	-
Knight Marketing Corporation						
Johnstown, NY .....	1	-	-	-	-	-
Laidlaw						
Metropolis, IL .....	1	-	-	-	-	-
Lebanon Chemical Corp						
Lebanon, PA .....	2	-	-	-	-	-
Lesco, Inc						
Rocky River, OH .....	8	-	-	-	-	-
Liphatech, Inc						
Milwaukee, WI .....	4	-	-	-	-	-
Lo-Chlor LLC						
Ft. Lauderdale, FL .....	1	-	-	-	-	-
Loveland Industries, Inc						
Greeley, CO .....	5	-	-	-	-	-
Lucas Products Corporation						
Toledo, OH .....	1	-	-	-	-	-
Lynwood Laboratories						
Needham, MA .....	1	-	-	-	-	-
M & M Products Company						
Batesburg, SC .....	3	-	-	-	-	-
Mickey's Sales & Service						
Elizabeth City, NC .....	1	-	-	-	-	1
Microban Systems, Inc						
Braddock, PA .....	2	-	-	-	-	-



**Table I — Pesticides Examined, 1998 (Continued)**

Name and Address of Company	SAMPLES					
	Analyzed	Adulterated	Deficient	Excessive Active Ingredient	Mis-branded	Not Registered
Micro-Flo Company						
Lakeland, FL .....	9	-	-	-	-	-
Miller Chemical & Fertilizer						
Hanover, PA .....	1	-	-	-	-	-
Misco Products Corporation						
Reading, PA .....	3	-	-	-	-	-
Monsanto Agricultural Company						
St. Louis, MO .....	17	-	-	-	-	-
Motomco, Ltd						
Madison, WI .....	4	-	-	-	-	-
Nalco Chemical Company						
Naperville, IL .....	1	-	-	-	-	-
Nalco Diversified						
Chagrin Falls, OH .....	2	-	-	-	-	-
Namico, Inc						
Philadelphia, PA .....	10	-	1	-	-	-
Nash Finch Company						
Minneapolis, MN .....	1	-	-	-	-	-
National Brands, Inc						
Fountain Inn, SC .....	2	-	-	-	-	-
National Chem Labs of PA						
Philadelphia, PA .....	3	-	1	-	-	-
National Interechem Corp						
Chicago, IL .....	2	-	-	-	-	-
North State Supply						
Winston - Salem, NC .....	2	-	-	-	-	-
Novartis Crop Protection						
Greensboro, NC .....	25	-	1	-	-	-
Nu-Method Pest Control						
Detroit, MI .....	1	-	-	-	-	-
Olympic Horticultural/Regwest Co						
Greeley, CO .....	3	-	-	-	-	-
Oregon - California Chemicals						
Junction City, OR .....	1	-	-	-	-	-
Pace International LP						
Kirkland, WA .....	2	-	-	-	-	-
Palmero Dental Mfg. / Sales						
Statford, CT .....	1	-	-	-	-	1
PBI / Gordon Corporation						
Kansas City, MO .....	3	-	-	-	-	-
Pegasus International, Inc						
Ft. Washington, PA .....	1	-	-	-	-	-
Penn Champ, Inc						
East Butler, PA .....	7	-	-	-	-	4
Personal Care/Regwest Company						
Greeley, Co .....	1	-	-	-	-	-
Pet Chemicals Div./Shirlo						
Memphis, TN .....	2	-	-	-	-	-
Pfizer Animal Health						
Lincoln, NE .....	14	-	-	-	-	-
Pharmacia & Upjohn Company						
Kalamazoo, MI .....	1	-	-	-	-	-
Phoenix Pharmaceutical, Inc						
St. Joesph, MO .....	3	-	3	-	-	-
Pine Glo Products						
Rolesville, NC .....	4	-	-	-	-	-
Platte Chemical Company						
Greeley, CO .....	6	-	-	-	-	-
PMI Nutrition, Inc						
Brentwood, MO .....	3	-	-	-	-	-

**Table I — Pesticides Examined, 1998 (Continued)**

Name and Address of Company	SAMPLES				
	Analyzed	Adulterated	Deficient	Excessive Active Ingredient	Mis-branded Not Registered
Prentiss Incorporated					
Floral Park, NY .....	2	-	-	-	-
Prillaman Chemical Corporation					
Suffolk, VA .....	1	-	-	-	-
Proctor & Gamble Distributing Co					
Cincinnati, OH .....	4	-	-	-	-
Purina Mills, Inc					
St. Louis, MO .....	8	-	2	-	1
Pursell Industries, Inc					
Sylacauga, AL .....	2	-	-	-	-
RBR Productions, Inc					
Teaneck, NJ .....	1	-	-	-	-
Realex					
St. Louis, MO .....	3	-	-	-	-
Reckitt & Coleman, Inc					
Wayne, NJ .....	12	-	-	-	-
Recreational Water Products					
Scottsdale, GA .....	2	-	-	-	-
Red Panther Chemical / Universal Coop					
Minneapolis, MN .....	1	-	-	-	-
Rhone-Poulenc, Inc./Ag Division					
Res.Triangle Park, NC .....	30	-	-	-	-
Riverdale Chemical Company					
Glenwood, IL .....	1	-	-	-	-
Roebic Laboratories, Inc					
Orange, CT .....	7	-	-	-	-
Roxide International					
New Rochelle, NY .....	1	-	-	-	-
RPS Products, Inc					
Hampshire, IL .....	2	-	-	-	-
Rug Doctor					
Fresno, CA .....	1	-	-	-	-
Russell Company Labs, I.D					
Longmont, CO .....	3	-	1	-	-
Rx Veterinary Products					
Porterville, CA .....	1	-	-	-	-
Safeguard Chemical Corporation					
Bronx, NY .....	6	-	-	-	-
Safer, Inc					
Bloomington, MN .....	1	-	-	-	-
Saffelle, Inc., I					
Chapel Hill, NC .....	2	-	-	-	-
Schering - Plough Animal					
Union, NJ .....	2	-	-	-	-
Schneid, Inc., I					
Atlanta, GA .....	1	-	-	-	-
Schultz Company					
St. Louis, MO .....	5	-	-	-	-
Scot Laboratories					
Chagrin Falls, OH .....	5	1	-	-	2
Selig Chemical Industries					
Atlanta, GA .....	5	1	-	-	-
Senoret Chemical Company, Inc					
Kirkwood, MO .....	3	-	-	-	-
Sergeant's Pet Products, Inc					
Memphis, TN .....	6	-	-	-	-
Seven Oaks Supply Company					
Oakboro, NC .....	2	-	-	-	-
Sewell Products, Inc					
Salem, VA .....	1	-	-	-	-



**Table I – Pesticides Examined, 1998 (Continued)**

Name and Address of Company	SAMPLES					
	Analyzed	Adulterated	Deficient	Excessive Active Ingredient	Mis-branded	Not Registered
Sherwin Williams Company, The Cleveland, OH .....	2	-	-	-	-	-
Solaris Group, The San Ramon, CA .....	90	-	2	-	-	-
Sostram Corporation Roswell, GA .....	6	-	-	-	-	-
Southeastern Sales Corporation Raleigh, NC .....	3	-	-	-	-	-
Southern Agricultural Insecticides Palmetto, FL .....	30	-	1	-	-	-
Spartan Chemical Company, Inc Toledo, OH .....	5	-	-	-	-	-
Spectrum Group St. Louis, MO .....	49	-	1	-	-	-
SSI Mobley Company, Inc Kilgore, TX .....	1	-	-	-	-	-
Sunpoint Products, Inc Lawrence, MA .....	1	-	-	-	-	-
Sunshine Makers Inc Huntington HR, CA .....	1	-	-	-	-	-
Superior Service & Supply Company Harrisburg, NC .....	1	-	1	-	-	-
Sureco, Inc Raleigh, NC .....	13	-	3	-	-	1
Taylor Laboratories, Inc Chattanooga, TN .....	2	-	-	-	-	-
Tenkoz, Inc Alpharetta, GA .....	4	-	-	-	-	-
Terand Industries, Inc Ft. Lauderdale, FL .....	1	-	-	-	-	-
Terminex International, Company Memphis, TN .....	1	-	-	-	-	-
Terra International, Inc Sioux City, IA .....	2	-	-	-	-	-
Theochem Laboratories, Inc Tampa, FL .....	6	-	-	-	-	-
Thomson Research Associates Toronto, OH .....	3	-	-	-	-	-
Three-M St. Paul, MN .....	2	-	2	-	-	-
Trace Chemicals, LLC Pekin, IL .....	3	-	1	-	-	-
Tomlyn Products Buena, NJ .....	1	-	-	-	-	-
Triple S Billerica, MA .....	1	-	-	-	-	-
Troy Biosciences, Inc Phoenix, AZ .....	3	-	-	-	-	-
Uniroyal Chemical Company Bethany, CT .....	8	-	-	-	-	-
Unisource Worldwide, Inc Atlanta, GA .....	6	-	-	-	-	-
United Horticultural Supply Greeley, CO .....	1	-	-	-	-	-
Universal Cooperative, Inc Minneapolis, MN .....	15	-	-	-	-	-
UNIX Incorporated Greenville, NC .....	1	-	-	-	-	-
USA Detergents, Inc N. Brunswick, NJ .....	2	-	-	-	-	-

**Table I — Pesticides Examined, 1998 (Continued)**

Name and Address of Company	SAMPLES					
	Analyzed	Adulterated	Deficient	Excessive Active Ingredient	Mis-branded	Not Registered
Valent USA Corporation						
Walnut Creek, CA .....	6	-	-	-	-	-
Valley Maintenance Supply, Inc						
Hickory, NC .....	1	-	-	-	-	1
Vanguard Chemical Labs						
Philadelphia, PA .....	1	-	-	-	-	-
Virbac, Inc						
Fortworth, TX .....	4	-	-	-	-	-
VMX Pet Products Corporation						
Secaucus, NJ .....	2	-	-	-	-	-
Voluntary Purchasing Group						
Bonham, TX .....	82	-	9	1	-	1
Walco Linck Company						
Valley Cottage, NY .....	10	-	-	-	-	-
Wellmark International						
Bensenville, IL .....	7	-	-	-	-	1
Wepak Corporation						
Charlotte, NC .....	4	1	-	-	-	-
White Cap, Inc						
Paoli, PA .....	3	-	-	-	-	-
Whitmire Micro - Gen. Research Labs						
St. Louis, MO .....	3	-	-	-	-	-
Willert Home Products, Inc						
St. Louis, MO .....	1	-	-	-	-	-
Wisconsin Pharmacal Company						
Jackson, WI .....	4	-	-	-	-	-
Woodstream Corporation						
Lititz, PA .....	2	-	-	-	-	-
Y-Tex Corporation						
Cody, WY .....	2	-	-	-	-	-
Zak Chemical Corporation						
Charlotte, NC .....	3	-	-	-	-	-
Zema Corporation						
Res. Triangle Park, NC .....	4	-	1	-	-	-
Zeneca, Inc						
Richmond, CA .....	29	-	-	-	-	-
Zeneca, Inc						
Wilmington, DE .....	8	-	-	-	-	-
Zep Manufacturing, Co						
Atlanta, GA .....	5	-	-	-	-	-
Zinsser & Company, Inc., William						
Somerset, NJ .....	2	-	-	-	-	-



Table II

**Samples at Variance From Guarantee, 1998**

This table lists the samples found by the Department's laboratories to be at variance from guarantee in 1998. The table also lists the name of each manufacturer, each pesticide brand name, and presents data and description indicating how each sample examined varied from guarantee.

Company and Brand Name	Guaranteed Per Cent	Found Per Cent	Analytical Decisions
<b>Airex Laboratories</b>			
AIR x 78 Plus Neutral pH Conc. Virucide, Disinfectant Cleaner &Odor Conteractant			
Didecyl dimethyl ammonium chloride .....	4.61		Microbiological performance inconsistent with label claims
n-Alkly (C14 50%, C12 40%, C16 10%)			
Dimethyl Benzykl ammonium chloride .....	3.07		
<b>Alljack/Div. Of United Ind.</b>			
K-Gro Diazinon Granules			
Diazinon .....	2.00	1.39	Deficient
K-Gro Diazinon Granules			
Diazinon .....	2.00	1.52	Deficient
<b>James H. Anderson Company</b>			
Janco Non-Acid Bathroom and Bowl Cleaner			
Octyl Decyl Dimethyl Ammonium Chloride	0.026		Microbiological performance inconsitent with label claims
Dioctyl Dimethyl Ammonium Chloride .....	0.013		
Didecyl Dimethyl Ammonium Chloride ....	0.013		
Alkyl( C14 50%, C12 40%, C18 10%) .....	0.034		
<b>Bay Tech Chemical Company</b>			
ProTech Diazinon Lawn & Garden Insect Granules			
Diazinon .....	5.0	3.81	Deficient
ProTech Lindane-20 Flea, Tick			
Diazinon .....	5.0	3.81	Deficient
<b>Black Leaf Products</b>			
True Value Green Thumb Liquid			
Fruit Tree Spray with Fungicide			
Methoxychlor .....	12.0	11.46	Deficient
Malathion .....	6.0	5.23	
Carbaryl.....	0.30	.43	
Captan.....	11.74	10.88	
<b>Bonide Chemical Company</b>			
Bonide Rose and Flower Spray or Dust RTU			
Methoxychlor .....	6.0	6.24	Deficient
Malathion .....	3.0	2.26	
Carbaryl.....	0.50	0.56	
Captan .....	5.87	5.50	Deficient
Bonide Bulb Dust RTU			
Methoxychlor .....	5.0	4.65	Deficient
Thiram .....	10.0	9.09	
<b>Brittany Supply Inc.</b>			
Brittany Supply Germiscat Germicidal			
Detergent & Deodorant.....			Microbiological Didecyl performance inconsitent with label claims
Dimethyl Ammonium Chloride .....	2.31		
n-Alkyl (C14 50%, C12 40%, C16 10%)			
Dimethyl Benzyl Ammonium Chloride ....	1.54		
Brittany Supply Germiscat Germicidal			
Detergent & Deodorant .....			Microbiological performance inconsitent with label claims
Didecyl Dimethyl Ammonium Chloride ....	2.31		
n-Alkyl (C14 50%, C12 40%, C16 10%)			
Dimethyl Benzyl Ammonium Chloride .....	1.54		
<b>Buckeye International</b>			
Buckeye Supergard Cleaner-Disinfectant-Deodorant			

Table II

**Samples at Variance From Guarantee, 1998**

Company and Brand Name	Guaranteed Per Cent	Found Per Cent	Analytical Decisions
Para-tertiary-amyphenol .....	10.0		Microbiological
Orth-Benzyl-Para- Chlorophenol .....	6.5		performance inconsistent
Ortho-Phenylphenol .....	6.0		with label claims
<b>Buckeye Sani-Care Quat</b>			
128 Detergent Deodorant			
Didecyl Dimethyl Ammonium Chloride ....	4.61		Microbiological
N-Alkyl (C14 50%, C12 40%, C16 10%)			performance inconsistent
Dimethyl Benzyl Ammonium Chloride .....	3.01		with label claims
<b>Buckeye Sani-Care Quat-256 One Step,</b>			
<b>Germicidal Detergent Deodorant</b>			
Didecyl Dimethyl Ammonium Chloride ....	9.22		Microbiological
N-Alkyl (C14 50%, C12 40%, C16 10%)			performance inconsistent
Dimethyl Benzyl Ammonium Chloride .....	6.14		with label claims
<b>The Butcher Company</b>			
<b>Butchers Pine Mountain II Disinfectant Cleaner</b>			
Didecyl Dimethyl Ammonium Chloride ....	2.31		Microbiological
N-Alkyl (C14 50%, C12 40%, C16 10%)			performance inconsistent
Dimethyl Benzyl Ammonium Chloride .....	1.54		with label claims
<b>Butcher's Lemon Fields II Disinfectant Cleaner</b>			
Didecyl Dimethyl Ammonium Chloride ....	2.31		Microbiological
N-Alkyl (C14 50%, C12 40%, C16 10%)			performance inconsistent
Dimethyl Benzyl Ammonium Chloride .....	1.54		with label claim
<b>Butcher's Lemon Fields II Disinfectant Cleaner</b>			
Didecyl Dimethyl Ammonium Chloride ....	2.31		Microbiological
N-Alkyl (C14 50%, C12 40%, C16 10%)			performance inconsistent
Dimethyl Benzyl Ammonium Chloride .....	1.54		with label claims
<b>Butcher's Pine Mountain II Disinfectant Cleaner</b>			
Didecyl Dimethyl Ammonium Chloride ....	2.31		Microbiological
N-Alkyl (C14 50%, C12 40%, C16 10%)			performance inconsistent
Dimethyl Benzyl Ammonium Chloride .....	1.54		with label claims
<b>Butcher's Blue Skies II Disinfectant Cleaner</b>			
Didecyl Dimethyl Ammonium Chloride ...	2.31		Microbiological
N-Alkyl (C14 50%, C12 40%, C16 10%)			performance inconsistent
Dimethyl Benzyl Ammonium Chloride .....	1.54		with label claims
<b>Butcher's Blue Skies II Disinfectant Cleaner</b>			
Didecyl Dimethyl Ammonium Chloride ...	2.31		Microbiological
N-Alkyl (C14 50%, C12 40%, C16 10%)			performance inconsistent
Dimethyl Benzyl Ammonium Chloride .....	1.54		with label claims
<b>Butcher's Sundance-Q II Disinfectant Cleaner</b>			
Didecyl dimethyl ammonium chloride .....	4.61		Microbiological
N-Alkyl (C14 50%, C12 40%, C16 10%)			performance inconsistent
Dimethyl Benzyl Ammonium Chloride .....	3.07		with label claims
<b>Cape Fear Chemicals</b>			
<b>Worm Whipper Brand</b>			
Bacillus Thuringiensis .....	0.064		
Carbaryl .....	0.00	0.05	Contaminated



Table II

**Samples at Variance From Guarantee, 1998**

Company and Brand Name	Guaranteed Per Cent	Found Per Cent	Analytical Decisions
Worm Whipper Brand			
Bacillus Thuringiensis .....	0.064		
Carbaryl .....	0.00	0.069	Contaminated
Malathion .....	0.00	0.100	Contaminated
Worm Whipper Brand			
Bacillus Thuringiensis .....	0.064		
Carbaryl .....	0.00	0.05	Contaminated
Endosulfan .....	0.00	0.23	Contaminated
Worm Whipper Brand			
Bacillus Thuringiensis .....	0.064		
Carbaryl .....	0.00	0.14	Contaminated
Worm Whipper Brand			
Bacillus Thuringiensis .....	0.064		
Carbaryl .....	0.00	0.13	Contaminated
Endosulfan .....	0.00	0.13	Contaminated
Tiger Brand Two Way Spray			
Carbaryl .....	13.5	.49	Deficient
Malathion .....	13.50	10.89	Deficient
Tiger Brand Two Way Spray			
Carbaryl .....	13.5	2.18	Deficient
Malathion .....	13.5	16.20	
Tiger Brand Organic Spray			
Rotenone .....	1.1	0.605	Deficient
Other Cube Extractives .....	2.2		
Pyrethrins .....	0.8	0.285	Deficient
Tiger Brand 5% Diazinon			
Diazinon .....	5.0	4.37	Deficient
Tiger Brand 4E Diazinon Insecticide			
Diazinon .....	47.5	44.48	Deficient
Tiger Brand Garden Special			
Carbaryl .....	5.0	3.57	Deficient
Endosulfan .....	0.00	0.59	Contaminated
Tiger Brand Garden Special			
Carbaryl .....	5.0	4.10	Deficient
Tiger Brand 4% Malathion Dust			
Malathion .....	4.0	3.81	
Carbaryl .....	0.00	0.395	Contaminated
Tiger Brand 4% Malathion Dust			
Malathion .....	4.0	3.59	Deficient
Carbaryl .....	0.00	0.325	Contaminated
Tiger Brand 4% Malathion Dust			
Malathion .....	4.0	3.91	
Carbaryl .....	0.00	0.94	Contaminated
Tiger Brand 4% Malathion Dust			
Malathion .....	4.0	1.43	Deficient
Carbaryl .....	0.00	0.60	Contaminated

**Table II**  
**Samples at Variance From Guarantee, 1998**

Company and Brand Name	Guaranteed Per Cent	Found Per Cent	Analytical Decisions
<b>Tiger Brand Two-Way Vegetable Dust</b>			
Malathion .....	2.0	1.45	Deficient
Carbaryl .....	2.0	1.93	
<b>Tiger Brand Two-Way Vegetable Dust</b>			
Malathion .....	2.0	1.42	Deficient
Carbaryl .....	2.0	1.93	
<b>Tiger Brand Two-Way Vegetable Dust</b>			
Malathion .....	2.0	1.63	Deficient
Carbaryl .....	2.0	1.58	Deficient
<b>Tiger Brand Garden Special</b>			
Carbaryl .....	5.00	3.57	Deficient
Endosulfan .....	0.00	0.62	Contaminated
<b>Tiger Brand Garden Special</b>			
Carbaryl .....	5.00	3.57	Deficient
Endosulfan .....	0.00	0.59	Contaminated
<b>Carroll Company</b>			
Oxide II Hospital Disinfectant			Microbiological performance inconsistent with label claims
O-phenylphenol .....	.210		
Ethyl Alcohol .....	69.623		
<b>Champion Supply</b>			
Lemon Odor Disinfectant & Detergent			Microbiological performance inconsistent with label claims
Didecyl dimethyl ammonium chloride .....	2.31		
N-Alkyl ( 50% C14, 40% C12, 10% C16) ....			
Dimethyl Benzeyl Ammonium Chloride ....	1.54		
<b>Chemisco</b>			
Ace Dilutable Concentrate Sevin Brand Insect Spray			Deficient
Carbaryl .....	21.30	19.20	
<b>Chem Tec Inc.</b>			
Chem Tec Help! Non- Acid Bowl Cleaner			Microbiological performance inconsistent with label claims
N-Alkyl (C14 60%, C16 30%, C18 5%) .....			
Dimethyl Benzeyl Ammonium Chloride .....	0.09		
N-Alkyl(C12 50%, C14 30%, C16 17%, C18 3%)			
Dimethyl Ethyl Benzeyl Ammonium Chloride .....	0.09		
<b>Dragon Corporation</b>			
Dragon Fruit Tree Spray			Deficient
Captan .....	11.76	11.42	
Related Derivatives .....	0.24		
Malathion .....	6.0	3.35	
Methoxychlor .....	12.0	13.0	
Carbaryl .....	0.30	0.32	
<b>Dragon 50% Malathion Insect Spray</b>			
Malathion .....	50.0	44.13	Deficient
<b>Dragon 50% Malathion Insect Spray</b>			
Malathion .....	50.0	45.85	Deficient
<b>Dragon Rose &amp; Flower Insect and Disease Concentrate</b>			
Captan .....	11.76	11.47	Deficient
Malathion .....	6.00	5.93	
Carbaryl .....	0.30	0.00	
Related Derivatives .....	0.24		
Methoxychlor .....	12.0	13.10	



Table II

**Samples at Variance From Guarantee, 1998**

Company and Brand Name	Guaranteed Per Cent	Found Per Cent	Analytical Decisions
Dragon Rose & Flower Insect and Disease Concentrate			
Captan.....	11.76	12.43	Deficient Excessive
Malathion .....	6.00	4.42	
Carbaryl.....	0.30	.660	
Related Derivatives .....	0.24		
Methoxychlor .....	12.0	13.39	
Dragon Fruit Tree Spray			
Captan.....	11.76	10.55	Deficient
Carbaryl.....	0.300	0.370	
Malathion .....	6.0	3.34	Deficient
Methoxychlor .....	12.00	12.66	
Related Derivatives .....	0.24		
Dragon Rose and Flower Dust			
Methoxychlor .....	6.0	6.05	Deficient
Captan.....	5.87	5.50	
Related Derivatives of Captan.....	0.13		
Malathion .....	3.0	2.29	
Carbaryl.....	0.5	0.49	
Dragon Rose and Flower Dust			
Methoxychlor .....	6.0	6.05	Deficient
Captan.....	5.87	5.50	
Related Derivatives of Captan.....	0.13		
Malathion .....	3.0	1.89	
Carbaryl.....	0.5	0.49	
Dragon Rose and Flower Dust			
Methoxychlor .....	6.0	5.63	Deficient
Captan.....	5.87	4.92	
Related Derivatives of Captan.....	0.13		
Malathion .....	3.0	2.17	Deficient
Carbaryl.....	0.5	0.50	
Dragon Fruit Tree Spray			
Captan.....	11.76	11.96	Deficient
Carbaryl.....	0.300	0.35	
Malathion .....	6.0	4.62	
Methoxychlor .....	12.00	13.21	
Related Derivatives .....	0.24		
Dragon Fruit Tree Spray			
Captan.....	11.76	13.90	Deficient
Carbaryl.....	0.30	0.30	
Malathion .....	6.0	3.98	
Methoxychlor .....	12.00	12.60	
Related Derivatives .....	0.24		
Dragon Diazinon Granules			
Diazinon.....	2.0	1.63	Deficient
Dymon Inc.			
Dymon Medaphonene Plus Disinfectant Spray			Microbiological performance inconsistent with label claims
O-Phenylphenol.....	0.19		
Ethyl Alcohol .....	68.0		
Ecolab, Inc.			
HB Quat			
N-Alkyl (C14 60%, C16 30%, C12 5%, C18 5%			

Table II

## Samples at Variance From Guarantee, 1998 (continued)

Company and Brand Name	Guaranteed Per Cent	Found Per Cent	Analytical Decisions
Dimethyl Benzyl Ammonium Chloride .....	2.25	Microbiological performance inconsistent with label claims	
N-Alkyl (C12 68%, C14 32%).....			
Dimethyl Ethyl Benzyl Ammonium Chloride	2.25		
<b>Farnam Companies</b>			
Farnam Apache Fly Bait			
Methomyl .....	1.00	0.52	Deficient
Z-9 Tricosene .....	0.25	0.145	Deficient
Security Brand Fruit-Guard			
Home Fruit Spray Flowable			
Captan .....	9.78	10.07	Deficient
Malathion .....	7.50	6.87	
Related Derivatives of Captan .....	0.22		
<b>Fermenta Animal\Boehringer</b>			
Fermenta Rabon 50WP Insecticide			
Livestock, Poultry and Premise Spray			
Tetrachlorvinphos .....	50.0	46.76	Deficient
<b>Floors &amp; Courts Inc.</b>			
Floors & Courts Inc. P-100 Pine Odor Deodorant Disinfectant			
Pine Oil .....	3.95	Microbiological performance inconsistent with label claims	
Alkyl (C14 58%, C16 28%, C12 14%) .....	1.97		
<b>Fresh Products</b>			
Fresh Terminator Disinfectant Deodorant			
N-Alkyl (C14 60%, 16 30%, C12 5%, C18 5%)	0.13	Microbiological performance inconsistent with label claims	
Dimethyl Benzyl Ammonium Chloride .....			
N-Alkyl (C12 50%, C14 30%, 16 17%, C18 3%)	0.13		
Dimethyl Ethyl Benzyl Ammonium Chloride			
Fresh Terminator Disinfectant Deodorant			
N-Alkyl (C14 60%, 16 30%, C12 5%, C18 5%)	0.13	Microbiological performance inconsistent with label claims	
Dimethyl Benzyl Ammonium Chloride .....			
N-Alkyl (C12 50%, C14 30%, 16 17%, C18 3%)	0.13		
Dimethyl Ethyl Benzyl Ammonium Chloride			
Fresh Terminator Disinfectant Deodorant			
N-Alkyl (C14 60%, 16 30%, C12 5%, C18 5%)	0.13	Microbiological performance inconsistent with label claims	
Dimethyl Benzyl Ammonium Chloride .....			
N-Alkyl (C12 50%, C14 30%, 16 17%, C18 3%)	0.13		
Dimethyl Ethyl Benzyl Ammonium Chloride			
<b>Green Light Company</b>			
Green Light Rose & Flower Dust			
Malathion .....	4.0	3.25	Deficient
Methoxychlor .....	5.0	4.45	Deficient
Captan .....	6.8	5.88	Deficient
Related Derivatives .....	0.2		
Green Light Rose & Flower Dust			
Malathion .....	4.0	3.55	Deficient
Methoxychlor .....	5.0	4.19	Deficient
Captan .....	6.8	6.07	Deficient
Related Derivatives .....	0.2		
Green Light Rose & Flower Dust			
Malathion .....	4.0	3.47	Deficient
Methoxychlor .....	5.0	3.38	Deficient
Captan .....	6.8	4.61	Deficient



Table II

Samples at Variance From Guarantee, 1998 (continued)

Company and Brand Name	Guaranteed Per Cent	Found Per Cent	Analytical Decisions
Related Derivatives .....	0.2		
Green Light Rose & Flower Dust			
Malathion .....	4.0	3.25	Deficient
Methoxychlor .....	5.0	4.16	Deficient
Captan .....	6.8	6.39	
Related Derivatives .....	0.2		
Green Light Rose & Flower Dust			
Malathion .....	4.0	3.72	
Methoxychlor .....	5.0	4.66	
Captan .....	6.8	6.39	Deficient
Related Derivatives .....	0.2		
<b>Gro Tec Inc.</b>			
Pennington's Pride Malathion 50% Insect Spray			
Malathion .....	50.0	47.38	Deficient
Pennington's Pride Rose and Flower Dust			
Methoxychlor .....	5.0	5.04	
Captan .....	6.8	6.52	
Malathion .....	4.0	3.04	Deficient
Related Derivatives(Captan) .....	0.2		
<b>H and H Products</b>			
Quat-X 800			
Didecyl Dimethyl Ammonium Chloride ....	15.36		Microbiological performance inconsistent with label claims
<b>Heartland Corporation</b>			
Foaming Spot Shot Anti-Bacterial			
Kitchen Cleaner-Disinfectant-Deodorizer ...			
N-Alkyl (C14 60%, C16 30%, C12 5%, C18 5%)			Microbiological performance inconsistent with label claims
Benzyl ammonium Chloride .....	0.1		
N-Ammonium(C12 68%, C14 32%)			
Dimethyl Ethyl Benzyl Ammonium Chlorides	0.1		
<b>Namio Inc.</b>			
Breeze Virucidal Ready to Use Germicide			
N-Alkyl (C14 60%, C16 30%, C12 5%, C18 5%)			Microbiological performance inconsistent with label claims
Benzyl Ammonium chloride .....	0.9		
N-Alkyl (C12 50%, C14 30%, C16 17%, C18 3%)			
Dimethyl Ethyl Benzyl Ammonium Chloride	0.9		
<b>National Chemical Laboratories</b>			
Neutra-Q			
Didecyl dimethyl ammonium .....	2.31		Microbiological performance inconsistent with label claims
N-Alkyl (C14 50%, C12 40%, C16 10%)			
Dimethyl benzyl ammonium chloride .....	1.54		
<b>Norvartis Crop Protection</b>			
Ridomil Gold PC GR Granular Fungicide			
Metalaxyl .....	0.40	0.215	Deficient
Pentachloronitrobenzene .....	10.00	7.20	Deficient
<b>Phoenix Pharmaceutical, Inc.</b>			
Disintegrator			
Didecyl Dimethyl Ammonium Chloride	9.22		Microbiological performance inconsistent with label claims
N-Alkyl (C14 50%, C12 40%, C16 10%)			
Dimethyl Benzyl Ammonium Chloride .....	6.14		

Table II

## Samples at Variance From Guarantee, 1998 (continued)

Company and Brand Name	Guaranteed Per Cent	Found Per Cent	Analytical Decisions
<b>Disintegrator</b>			
Didecyl Dimethyl Ammonium Chloride	9.22		Microbiological performance inconsistent with label claims
N-Alkyl (C14 50%, C12 40%, C16 10%)			
Dimethyl Benzyl Ammonium Chloride .....	6.14		
<b>Disintegrator</b>			
Didecyl Dimethyl Ammonium Chloride	9.22		Microbiological performance inconsistent with label claims
N-Alkyl (C14 50%, C12 40%, C16 10%)			
Dimethyl Benzyl Ammonium Chloride .....	6.14		
<b>Purina Mills</b>			
Purina Malathion Spray 54%			
Malathion .....	54.0	51.05	Deficient
Purina Malathion Spray 54%			
Malathion .....	54.0	50.09	Deficient
<b>I.D. Russell Co. Laboratories</b>			
Triphenol-R/256			
ortho-Phenylphenol .....	11.0		Microbiological performance inconsistent With label claims
ortho-Benzyl-para-Chlorophenol .....	6.0		
para-Tertiary-Amyphenol .....	4.0		
<b>Scot Laboratories</b>			
Scot's Commercial Products Non-Aid			
Bath & Bowl Cleaner			
Octyl Dimethyl Ammonium Chloride .....	0.018		Microbiological performance inconsistent with label claims
Dioctyl Dimethyl Ammonium Chloride .....	0.009		
Didecyl Dimethyl Ammonium Chloride .....	0.009		
Alkyl(C14 50%, C12 40%, C16 10%)			
Dimethyl Benzyl Ammonium Chloride .....	0.024		
<b>Selig Chemical Industries</b>			
Staph Kill II Disinfectant Deodorant			
N-Alkyl (60% C14, 32% C16, 5% C12, 5% C18)			Microbiological performance inconsistent with label claims
Dimethyl Benzyl Ammonium Chlorides ....	0.14		
N-Alkyl (68% C12, 32% C14) Dimethyl Ethyl			
Benzyl Ammonium Chlorides .....	0.14		
Isopropanol .....	75.71		
<b>The Solaris Group</b>			
Ortho Isotox Insect Killer Formula IV			
Acephate .....	8.0	6.84	Deficient
Hexakis(2-methyl-2-phenylpropyl)-distannoxane	0.5	.048	
Ortho Orthoex Insect & Disease Control Formula III			
Acephate .....	4.00	4.34	Deficient
Fenbutatin Oxide .....	0.75	0.86	
Triforine .....	3.25	2.08	
<b>Southern Agricultural Insecticides</b>			
SA-50 Acephate Fire Ant Killer and Systemic T & O Insecticide			
Acephate .....	75.0	71.55	Deficient
<b>Spectrum Group</b>			
Hot Shot Ant Killer Plus			
Tralomethrin .....	0.03	0.02	Deficient
Allethrin .....	0.05	0.05	
N-Octyl Bicycloheptenedicarboximide ....	1.00	0.01	



Table II

## Samples at Variance From Guarantee, 1998 (continued)

Company and Brand Name	Guaranteed Per Cent	Found Per Cent	Analytical Decisions
<b>Sureco Incorporated</b>			
Blackleaf 10% Sevin Dust			
Carbaryl.....	10.00	8.49	Deficient
Green Thumb 5% Sevin Brand Carbaryl Insecticide			
Carbaryl.....	5.0	2.60	Defiient
<b>Superior Service &amp; Supply Company</b>			
Formula 64-RP-3			
Didecyl ammonium Chloride.....	1.87	Microbiological performance inconsistent with label claims	
N-Alkyl(C14 50%, C12 40%, C16 10%)			
Dimethy Benzyl Ammonium Chloride.....	1.24		
<b>Three M</b>			
3M Quat Disinfectant leaner Concentrate			
Octyl decyl dimethyl ammonium chloride	6.510	Microbiological performance inconsistent with label claims	
Dioctyl dimethyl ammonium hlorid .....	2.604		
Dideyl dimethyl ammonium chloride .....	3.906		
Alkyl (C14 50%, C12 40%, C16 10%)			
Benzyl ammonium hloride .....	8.680		
<b>Trace Chemicals Incorporated</b>			
Triple-Noctin L Liquid Soybean Seed Treatment			
Thiram .....	14.66	9.23	Deficient
TCI Kernel Guard Diazinon-Lindane-Captan			
Captan.....	14.67	10.24	Deficient
Diazinon.....	15.00	13.47	Deficient
Lindane .....	25.00	24.51	
<b>Tru Serv</b>			
Green Thumb Spot Weed Killer			
2,4,-D .....	0.65	0.210	Deficient
<b>Voluntary Purchasing Group</b>			
Ferti-Lome Flea & Tick Killer			
Pyrethins .....	0.02	0.001	Deficient
Piperonyl Butoxide Technical .....	0.20	0.04	Deficient
Petroleum Distillate .....	0.08		
Hi-Yield Fire Ant Control Granules			
Diazinon.....	5.0	4.36	Deficient
Ferti-Lome Quick-Kill Home, Garden, and Pet Spray			
Pyrethrins .....	0.02	0.0016	Deficient
Piperonyl Butoxide .....	0.20	0.0195	Defciient
Ferti-lome Liquid Fruit Tree Spray			
Captan.....	9.78	8.56	Deficient
Related derivatives to Captan .....	0.22		
Malathion .....	7.50	5.40	Deficient
Hi-Yield 5% Diazinon Insect Killer Granules			
Diazinon .....	5.00	4.09	Deficient
Hi-Yield 5% Diazinon Insect Killer Granules			
Diazinon .....	5.00	4.34	Deficient
Hi-Yield Ant Killer Concentrate			
Diazinon .....	2.0	3.04	Deficient

Table II

## Samples at Variance From Guarantee, 1998 (continued)

Company and Brand Name	Guaranteed Per Cent	Found Per Cent	Analytical Decisions
Hi-Yield 55% Malathion Spray Malathion .....	55.0	50.63	Deficient
Hi-Yield 55% Malathion Spray Malathion .....	55.0	47.13	Deficient
Hi-Yield Rose, Flower and Vegetable Dust Carbaryl .....	2.0	1.18	Deficient
Sulfur .....	2.0	2.04	
Hi Yield- 55%Malathion Spray Malathion .....	55.0	52.0	Deficient
Hi-Yield Maneb Lawn & Garden Fungicide Maneb .....	80.0	75.86	Deficient
Hi-Yield Maneb Lawn & Garden Fungicide Maneb .....	80.0	66.20	Deficient
<b>Wade Jones Company</b>			Microbiological
WJC Quat D-1536			performance inconsistent
Didecyl Dimethyl Ammonium Chloride ....	15.36		with label claims
<b>Wepak Corporation</b>			
Wepak Non-Accid Bathroom Disinfectant			
N-Alkyl (C14 60%, C16 30%, C12 5%, C18 5%)			Microbiological
Dimethyl Benzyl Ammonium Chloride .....	0.09		performance inconsistent
N-Alkyl (C12 50%, C14 30%, C16 17%, C18 3%)			with label claims
Dimethyl Ethyl Benzyl Ammonium Chloride	0.09		
<b>Zema Corporation</b>			
Pro-Zema Plus Germicidal Detergent & Deodorant			Microbiological
Didecyl dimethyl ammonium chloride .....	9.22		performance inconsistent
N-alkyl (C14 50%, C12 40%, C16 10%) .....	6.14		with label claims
Pro-Zema Plus Germicidal Detergent & Deodorant			Microbiological
Didecyl dimethyl ammonium chloride .....	9.22		performance inconsistent
N-alkyl (C14 50%, C12 40%, C16 10%) .....	6.14		with label claims



## OTHER VIOLATIONS, 1998

This list gives the names of firms that manufactured or distributed products in North Carolina during 1998 and had one or more violations under the "North Carolina Pesticide Law of 1971." These violations constituted either unregistered or misbranded products examined at pesticide outlets but not sampled for analysis.

Airex Laboratories  
Folcroft, PA

Alden Leeds, Inc.  
So. Kearny, NJ

American Products, Inc.  
Pineville, NC

Apollo Industries  
Smyrna, GA

Aqua Clea Industries  
Albany NY

Atlas Chemical  
Cedar Rapids, IA

Biocide International,  
Inc.  
Norman, OK

Blackleaf Products  
Raleigh, NC

Blue Magic Products,  
Inc.  
Stockton, CA

Boehringer Ingelheim  
Animal Health  
St. Joseph, MO

Bonide Chemicals,  
Company  
Yorkville, NY

Buhl Products, Div. Of  
Protexall Products, Inc.  
Longwood, FL

Bunzul USA  
Dayton, NJ

Carroll Company  
Garland, TX

Cape Fear Chemicals  
Elizabethtown, NC

Carolina Distribution  
Franklin, NC

Chad Supply  
Thontosassa, FL

Champion Chemical  
Company  
Whittier, CA

Ciba Speciality  
Chemicals Corp.  
High Point, NC

Chromate Industrial  
Corp.  
Bohemia, NY

Cleaning Solutions  
Group  
Harve De Grace, MD

CloWhite Company  
Hampton, GA

Colgate-Palmolive  
Company  
Tenafly, NJ

Core Products Company,  
Inc.  
Canton, TX

Coughlan Products,  
Corp.  
Wayne, NJ

Delmarva Chemical Mfg.  
Corp.  
Salisbury, MD

Dexol Industries  
Torance, CA

Dr. T's Nature Products  
Pelham, GA

Dragon Chemical Corp.  
Roanoke, VA

Durvet, Inc.  
Blue Springs, MO

Faesy & BestHoff, Inc.  
Edgewater, NJ

Farnam Companies Inc.  
Phoenix, AZ

Fearing Div/Destron-  
Fearing Corporation  
St. Paul, MN

Four Paws Products  
Hauppauge, NY

Fox Pool Corp.  
York, PA

GLB Pool & Spa/Laporte  
Milwaukee, WI

Gro Tech, Inc.  
Covington, GA

Hess & Clark, Inc.  
Greeley, CO

Hobs Laboratories  
Newark, NJ

HRH Products, Inc.  
Tulsa, OK

Hudson Pool Distributors  
New London, NC

Jungle Laboratories  
Corp.  
Cibolo, TX

LeGear Animal Health  
Pierce, CO

Leisure/Laporte Wtr.  
Techn.  
Milwaukee, WI

Lynwood Laboratories  
Needham, MA

NCN, Inc.  
Beford, TX

N. Jonas & Company  
New Salem, PA

McGrayel Company \  
Pool Care  
Fresno, CA

M.E. Parks Enterprises,  
Inc.  
Fallbrook, CA

Mickey's Sales & Service  
Elizabeth City, NC

National Chemicals, Inc.  
Winona, MN

Natural Animal, Inc.  
St. Augustine, FL

Olin Corporation  
Cheshire, CT

Penn Champ, Inc  
East Butler, PA

Pennington Seed, Inc.  
Covington, GA

Penny Saver  
Jacksonville, FL

Pittsburg Chemical  
Laboratory Company  
Kinston, NC

## OTHER VIOLATIONS, 1998

Protexall Products, Inc.  
Longwood, FL

Purina Mills, Inc.  
St. Louis, MO

Queen Janitorial Supply  
Gaffney, SC

Savee Products, Inc.  
Neeses, SC

Scot Laboratories  
Chagrin Falls, OH

Selet Brand Distributors  
Macedonia, OH

Southern Agricultural  
Insecticides  
Palmetto, FL

Spartan Chemical Co.  
Inc.  
Toledo, OH

Speer Products  
Memphis, TN

Superior Products  
Charlotte, NC

Sureco, Inc.  
Raleigh, NC

Tender Corp.  
Greeley, CO

Trico Solutions  
Eau Claire, WI

Troy Chemical  
Industries, Inc.  
Burton, OH

Tri-Blends, Inc.  
Monroe, NC

Troy Chemical Indus-  
tries, Inc.  
Burton, OH

Valley Maintenance  
Supply, Inc.  
Hickory, NC

Vanquard Chemical  
Laboratories  
Philadelphia, PA

Vikon Chemical Co., Inc.  
Burlington, NC

Voluntary Purchasing  
Group  
Bonham, TX

Wellmark International  
Bensenville, IL

WIC Ecomaster  
Minneapolis, MN

Zeneca, Inc.  
Wilmington, DE

Zoo Med Laboratories  
San Luis Obispo, CA



**Summary of 1998  
Regulatory Activities Performed  
Under the N. C. Pesticide Law**

**Pesticide Registrations**

Total Number of Registrants .....	1,459
Registrants from North Carolina .....	167
Pesticide Products Registered .....	12,577
Section 24(c) registrations .....	7
Section 18 registrations .....	9

**Compliance Monitoring**

Inspections .....	15,697
Physical Samples Submitted .....	2,538
Formulations .....	1,510
Disinfectants .....	400
Investigations .....	634
Analytical Determinations Made .....	3,451
Product Registration Checks .....	9,365

**Regulatory Actions**

Stop-Sale, Stop Use, Removal Orders .....	370
License or Certification Suspensions .....	7
Civil Penalties .....	56
Delinquent Registration Penalties .....	127

**Licenses Issued**

Pesticide Dealer Licenses .....	759
Ground Pesticide Applicator Licenses .....	7,054
Aerial Pesticide Applicator Licenses .....	215
Public Operator Licenses .....	4,137
Pest Control Consultant Licenses .....	101
Total Pesticide Licenses .....	12,266

**Certified Applicators**

Private Pesticide Applicators .....	26,449
-------------------------------------	--------

# Summary of 1998 Container Recycling and Pesticide Disposal Activities



\* Pounds of pesticides collected for disposal: 102,173

\* Pounds of pesticide containers collected for recycling: 377,639

\* All shaded areas represent counties with pesticide container recycling programs.

- Counties that hosted pesticide disposal events.















NORTH CAROLINA DEPARTMENT OF AGRICULTURE  
AND CONSUMER SERVICES  
Food and Drug Protection Division  
Pesticide Section  
P.O. Box 27647  
Raleigh, NC 27611

Bulk Rate  
U.S. Postage  
PAID  
Raleigh, NC 27611  
Permit number 821